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ORIGINAL ARTICLES

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HEALTH RELATIONS OF LOUISIANA WITH THE SOUTH AMERICAN COUNTRIES.*

By DR. OSCAR DOWLING, M. D.,
New Orleans.

The 1923 tour of the American College of Surgeons was planned by Dr. Franklin Martin, Director-General, after two trips through South American countries which he made with Dr. William J. Mayo, former President, and Dr. Thomas J. Watkins, a Governor of the College. The itinerary included Havana, the Canal Zone, and the principal countries of South America.

A visit to this continent brings conviction that we have little to fear from the introduction of diseases peculiar to South America. It is true that some of the tropical diseases which do not prevail to any extent here, with increased trade relations might be brought to this country. This, however, is a remote contingency, and we feel we would be able to control the spread as they do in the countries where these diseases now have a foothold.

A hurried but comprehensive study of seventeen places, including the Port of Spain, Island of Trinidad, eight countries and twelve large cities, reveals a health situation very similar to our own. There was no Plague, no Cholera, and no Yellow Fever, except nine cases in two cities of Brazil, where active measures similar to those followed in New Orleans in 1905 had been put into effect, but about the same percentage of Tuberculosis, Malaria (except on the dry west coast and in a few places which have been thoroughly drained), Typhoid, Smallpox, Hookworm (in some places), Syphilis and Gonorrhea in all. Considerable Trachoma and Leprosy in a few places.

Similar quarantine and isolation regulations are in effect as with us, and if anything greater facilities for the protection of public health from persons having communicable diseases. In some instances regulations and enforcement are more effective than with us; the compulsory vaccination law with enforcement is an example. No one may enter Argentine, where they require certificate with finger prints, and other countries without a certificate satisfactory to the authorities. Request to the Consul of any of these countries for a passport must include a satisfactory statement from the health authorities of the State or City of recent vaccination or two unsuccessful attempts, before the tourist will be granted the passport. It is hoped in South America by the rigid enforcement of these laws that Smallpox may be entirely controlled and become as rare as Yellow Fever or Plague. International regulation for compulsory vaccination with enforcement would soon make Smallpox negligible. Incidentally, it may be of interest that in Rio de Janeiro they have had no Plague since 1910; no Yellow Fever since 1907; in Buenos Aires no Plague for five years; no Yellow Fever for thirty years.

It may be well to add a word about maritime quarantine. Although we

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have passed many milestones in the progress of control of disease, the drastic quarantine regulations of former years are still favored by many conscientious health officials. But as the countries of the world profit by the discoveries in medicine and the great ports are freed from Yellow Fever, Cholera, Plague and Typhus Fever, it seems only common sense to draft new quarantine laws for the convenience of the traveler and the commercial advancement of the countries. The cities which have built rat-proof wharfs at an enormous expense and put over costly campaigns for the control of contagious diseases should be accorded the commercial advantages to which they are entitled because of these improvements. In view of this progress a modification of the present quarantine regulations seems logical and it is the reason for the consideration now being given the subject by representatives of the various countries of the world.

Aside from the question of introduction of disease from these countries, there is one other point to be considered in a discussion of our health relations. It is only within recent years that we have come to appreciate interchange of ideas regarding medical methods. Even in the Middle Ages it was a common experience in Europe for students to travel from university to university assimilating the teaching and, above all, the viewpoints of the teachers in each one. The result is obvious. The custom has led to a broader vision, a deeper understanding and a keener sense of sympathy. That the interchange of students has been of international advantage is axiomatic because friction and often warfare are directly traceable to the clash of mental attitudes arising from a lack of understanding on the part of too different nationalities.

Regardless of race, human nature—meaning psychology, is virtually the same wherever we go; differences of opinion are largely due to different modes of thinking, to different customs and to an inability to put oneself in the other's position or to share his viewpoints. With no other countries is such an understanding of greater importance than with the Latin-Americans to the south of us. Commercial and social relations would be enhanced and the medical standards of our own land improved by an interchange of men who would carry back with them ideals and methods of the countries visited.

The South American States offer unique advantages. The development of scientific medicine in the great laboratories of Buenos Aires, Rio de Janeiro and Sao Paulo are scarcely to be equaled by any others in the world. The study of diseases peculiar to these countries is another incentive to the student from the North American continent because of the close proximity and the possible need for this knowledge.

Then too, the methods of dealing with acute infectious diseases while in general similar, must of necessity vary according to the climatic conditions, the popular atttude and the regional configuration. All of these facts are important from the medical viewpoint, and the person equipped with the information obtainable by study in both the Latin and the North American countries may be compared with the individual who views an object from two perspectives.

New Orleans is the southern gateway of the North American continent. Commercial relations with all the world, and especially with the South American countries, are focused at this port. It is wise to foster and encourage these relations, both for the sake of international amity as well as for the less altruistic motive of business advantage. In what better way can this be accomplished than by an interchange of ideas? We have much that is good to learn from our southern neighbors. We can only engender the spirit of mutual cooperation by mutual understanding.

VENEREAL DISEASE CONTROL.*

By DR. A. T. McCORMACK,
Louisville, Ky.

Mr. President, Ladies and Gentlemen: To my mind there is no difference between the control of venereal disease and malaria, scarlet fever, measles, or other diseases, except in the difference in the treatment of any one of these things. They are all controlled by,

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first, education of the public; second, education of the profession, and third, organization by the public and the profession of an agency that will control these diseases with their aid and assistance.

It seems to me that the most important thing that confronts the medical profession today—and anything that confronts the medical profession of this country confronts the public—the most important problem for us to get clear in our minds is, whence we have come, where we are, and where we are going. I think it is important for us to analyze some of the conditions that exist in the practice of medicine in all lines, and then having analyzed them, help to so build up our organization that we can control them.

Recently the Kentucky State Medical Association has been making an investigation of medical practice. We have held tuberculosis clinics in eighteen countries. It is very interesting to know that as a result of those clinics we found that 56 per cent of those having tubercle bacilli in the sputum had not at any time consulted a physician for the tuberculosis which they had. We found that nearly 50 per cent of those who had consulted a physician had not been told they had tuberculosis and had been given no advice as to their own care nor any measures to prevent the spread of the disease to the children. That is a rather important matter. We had 100 of our physicians make an examination each of ten women who had borne children, and of that number we found that less than 3 per cent had had prenatal care in any of their pregnancies, and that none of them except in the three cities where there are specialists in obstetrics, had had regular supervisory care of their babies during their infancy. They had gone to the doctor when they were sick, in other words, and as a consequence they had not had proper care. That might be carried out in other lines. Take cases of hernia that go through life harnessed like a mule, that could have been relieved in early childhood by a simple, effective and complete operation. These instances might be multiplied almost indefinitely. Take diphtheria. In Kentucky we have made an investigation of every death from diphtheria. It is interesting that there have only been two deaths in the State in five years in which a doctor was called within twenty-four hours. There has not been any death in which 25,000 units of antitoxin was used within twenty-four hours, and yet we have a high death rate from diphtheria.

What I am trying to get at is this; We have had the idea—and we have heard it said—that eventually, with all the work that is being done by the health officers and the doctors together, the time would come when there would not be any doctors, and those who were here would not make a living. That is a fallacy that should be exploded. The important thing for us to realize is that when we have begun to exercise real supervision over the health and lives of those who are dependent upon us, it will take more doctors to do it, and they will have to be more careful in their examinations and diagnosis when they deal with the tendency to disease than when they have definite pathological changes.

The future of medicine will largely be based upon the splendid essay presented to you by Doctor Leathers. The important thing for us to get before our people --most of us are too old to start over now —we cannot expect adults to carry out a whole new program, for the average adult is like a biscuit—it may be made of good material and well baked, but still not be good for food purposes, and should be thrown away. The only thing to do is to throw us away and start over. But the changes that take place must come through education. Back in the old days when you had yellow fever in New Orleans, when men's hearts were tried, and when heroes were developed in our profession, you did not have as many doctors as you have now, and yet you had more yellow fever. The same thing applies to typhoid fever, and to malaria, and all those other diseases —when they disappear it will take more doctors than you need now. Another thing, the profession will be better paid then, because we will only have the good sort of folks—the people who pay their bills, and we will get our money easier and get more of it than we do now. The thing to get before the people is the fact that health is purchasable.

Then, as Doctor Welch and Doctor Leathers have expresed it, the future

commercial value of the South, the commercial standing of any section of the United States, will be dependent upon its vital statistics reports, and just as soon as the Southern States expend the amount of money they need to expend in the control of the diseases that are causing unnecessary misery and death —just in proportion as we build up our public schools in which the vast majority of our people are educated; just in proportion as we make the curricula of our common schools sufficient to teach the people the value of life and how to live; just in proportion as we have in pre-school age corrected their defects, and during school age give them such physical education as makes them conscious of the value of good health so that if they do become victims of disease they will see to it that they are so protected that the disease cannot spread to others—just in that proportion will we be able to solve our health problems.

This applies to venereal disease the same as to tuberculosis. For a long time we whispered about venereal disease, we thought it was not to be talked about. We have hesitated to come before mixed audiences to talk about the diseases that are scattered by male and female prostitutes. But we need to talk about them —we doctors need to tell what we know about them, because we put them in the same class with all carriers of disease, except that the destruction from venereal disease is the greater. One-fourth of the people in our asylums are there due directly or indirectly to syphilis, and a tremendous percentage of the abdominal operations on women are due to gonorrhoea. We all know these things, and it is not fair for us not to talk to people about them, it is not fair not to talk to the young women of the State and make it plain to them that the male prostitute is just as dangerous as the female prostitute; that there is no difference and should be no difference between their isolation and their treatment. (Applause.) When that time has come—and thank God since the women have the vote it will come pretty quickly—the childhood of the country will be protected from these diseases. And just as soon as the men and women of this country know the situation and know that there is no other disease or no other combination of diseases that all over this broad land, from east to west, from the north to the southernmost boundary, produces so much distress and is such a cause of delinquency, of defectiveness and of death, as venereal disease, then, and not until then, will we get anywhere in its control.

It cannot be done—and this is the important thing I want to talk to you about it—it cannot be done until every county medical organization is functioning correctly. In New Orleans, where you have a splendidly organized health department, where your city maintains strict health rules, your death rate is reduced, and thirty-five or forty years ago you had more deaths from utterly unknown causes than from all causes now, because you have become an intelligent people, and as rapidly as this can be carried to a logical conclusion throughout the State, the condition will be improved there. The doctors of the State realize as an organization the need for our health officers going to the families, and I want to submit to the doctors of Louisiana, as I have to the doctors of Kentucky, that they will have more influence in building roads, in building schools—they will have more influence with the legislators than any other element in the entire State, provided they do their job correctly, provided they go into the home and talk to the people about disease and how to keep them healthy. It is just in proportion as we teach the people that it is necessary to get rid of malaria, that community organization is necessary, that a health department is necessary so that the poor may be taken care of—just in proportion as we do this will we keep our people alive longer. The average age has been increased fifteen years in thirty years, and it can be increased that much more in thirty years, and think how many more people there will be—intelligent people. If every man and woman in this room could live fifteen years longer, having now arrived at the stage where you are useful—think what your community could afford to give if your life could be saved fifteen years longer. It can be done—it can be done.

How are we going to do it? Fifty per cent of tuberculous people have no medical care—little children grow up from babyhood and through school life with-

out medical supervision, without being taught how to care for themselves or those around them—they grow up to be Christian Scientists and become the victims of quacks and chiropractors because of neglect on the part of the interested public. Is that what we are after? That is why they are misled—because we have not exercised the responsibility that is ours, we have not carried on our shoulders the obligations put upon us when we became doctors—we have not taught the people the things they ought to know. We have been content to improve our profession tremendously, and to stay in our offices like spiders in their webs waiting for the people to come to us, but we have not put before the public in a way they can understand the things the public needs to know about the great temples which are their bodies, and we have not taught them to come to us for advice which we are the only ones to give.

I would like to talk about two weeks, for I like this audience, but I guess I had better stop. (Applause.)

DISCUSSION.

Dr. L. C. Scott (New Orleans): This is an extremely interesting subject, and I fully agree with the Doctor that the prevention of venereal disease must be attacked from the educational standpoint.

With regard to the manner in which these facts can be brought to the public—shall it be through propaganda, or shall it be through education in the public schools? Can we introduce the idea of sex hygiene into the public schools in such a manner that the young will profit by the instruction, so that when they reach adult life they may be able to avoid the pitfalls and dangers to which so many people, and especially the youth, are exposed? Or is it best to take it up with the adults themselves—through lectures and talks and through the newspapers? The difficulty so far as I can see is to decide just how to attack the problem.

Prostitution is not only a social and eugenic, but also a legal problem. The social aspect is taken care of very largely by the social workers and also by a great many societies that try to solve social problems in one way or another. The economic side is extremely important, because approximately 50 per cent of prostitutes come from the working class; from those who have comparatively little income.

The question of eugenics is in its infancy. A great many investigations along the line of psychology and psycho-neurotic lines seem to indicate that the majority of prostitutes actually belong to the feeble-minded. If that is the case, we are continually breeding recruits to the prostitute class, and, of course, from the eugenic standpoint that is diametrically wrong. In fact, it is a dysgenic agency. We should take more care in the propagation of better children—for the benefit of the whole country.

And, of course, the legal question is very important. Can you legislate prostitution and venereal disease out of existence? In my opinion you cannot. Legislation—repressions of all sorts have been tried throughout the ages, but without much effect. Legislation restricts to a certain extent, but it does not prevent. True, the elimination of the red-light district has done a great deal towards the elimination of venereal disease. If I could put before you the charts which we have made in the past few years, which indicate what I should term a decline in the venereal rate in the State, I think you would be interested, but we do not know whether it is a real or only apparent decline. Assuming that they represent an apparent decline, it may be due to the fact that the doctors refuse to report their cases. I do not believe that is the case, because taken in conjunction with other communicable diseases, venereal disease seems actually to be on the decline, and relatively speaking the figures are correct. One noticeable feature of these statistics is that in 1920 the gonorrhoeal statistics were far ahead of the syphilitic cases; in 1921 the gonorrhoeal and syphilitic cases were exactly the same, and in 1922 the syphilitic were in excess of the gonorrhoeal. What does that mean? We cannot understand it. We cannot believe it is on account of lack of reporting by the physicians. We believe it is on account of propaganda and educational work done by the clinics. We believe it is due to the fact that the literature goes out to the clinics, and the clinic acts as a nucleus from which propaganda radiates—these people come to the clinics for treatment for some systematic infection, and they take this literature home and read it and tell others and interest others. The clinics are doing a great work, and they are increasing rapidly. The amount of salvarsan we used in 1922 was almost $2,000 in excess of that used in 1921. That seems to indicate that more work is being done in the alleviation of syphilitic infection.

One other thing, and that is that we believe prostitution is a problem that can be more easily handled by the women than by men. If the women would only take an interest in this subject I think it would not be very long before there would be a beneficial effect that we could point to with pride. The men are difficult to move. Why, I do not presume to say, but it is a fact. We sent out during the past year approximately 10,000 letters we received about 34 replies. That indicates that there is not very much interest taken in venereal disease. If that is the case there is a reason for it—what it is we do not know. But we do know that there must be some way provided to get this information and instruction to the masses.

Dr. M. H. Foster (Alexandria): This subject must be considered from the social and the therapeutic standpoint, which we are

naturally at the present time interested in, and also from the economic. The latter is a very important consideration. If you take this matter of venereal disease prevention and control to these corporations you must show them that it pays to do the work, and you certainly can show them that it pays to have a man taken off the pension list and put on the payroll.

There is a difference in the prevalence of venereal disease, depending upon the amount of education given to a certain group of individuals. I was forcibly struck with that in the army. At one place there were two medical officers who had exactly opposite views on this subject. One took the attitude that some doctors still take—if a man gets caught it is hard luck, but his misfortune. We had numerous infections arising in the outfit under his supervision. The other one was keenly alive to the situation, interested in his boys, in their proper instruction, in prophylaxis, and used moving pictures and all other means available, and during the time this outfit was mobilized we had only two or three infections to occur.

Two things must be accepted. First, we must admit the presence of the problem, and having admitted that, then we must organize some means of prevention and control as we do with other preventable disease, as Doctor McCormack has suggested. I have always contended that venereal disease was no different from any other. We know we can prevent smallpox by vaccination, yellow fever by inoculation, etc. Venereal diseases can be prevented, but I do not believe it will be by legislation.

Dr. A. T. McCormack (closing): Before replying to the statements made by Dr. Scott and Dr. Foster I want to thank them for what they said, and I want to congratulate you, Mr. Chairman, on the character of this very unusual meeting. I have had the privilege of attending meetings in about two-thirds of the States in the Union, and there is a larger proportion present here tonight than has ever been present at any other medical meeting of this character that I have attended. This sort of thing does not simply happen. Those who come do not come simply because there is to be a meeting. It is a remarkable fact, and I want to suggest to the membership of this association that you owe a very deep debt of gratitude to your President, Secretary and officers for your effective organization—an organization that can demand an attendance like this at your closing session.

I have often wondered why any physician fails to report his venereal diseases. Some of them do. I have tried my best to find out from those who do not report. In Kentucky we refused to license some of them, because it is such a serious matter that a physician is considered **particeps criminis** in spreading the disease. In fact, he is guilty if he permits unreported cases to spread the disease, and he must take the consequences. How can any man persuade himself to do it? Every now and then you hear somebody say it is such a private matter. Is it? Is it a private matter for a man to get a disease that can cause the probable disability of the woman he marries, certainly serious illness, and possibly death? Is it a private matter? Is it a thing he has a right to do? I want to submit to the medical profession of Louisiana, a profession that has led in many of the greatest campaigns for human welfare, that has had Congressional medals and honors conferred upon its leaders from time to time—men who have sacrificed their lives in doing their duty—I want to call upon this profession to rise as one man and one woman, and refute the slander put upon us. We cannot say anything worse about the chiropractor than he can say about us, when our men refuse to prevent venereal disease by failing to report their cases. We are untrue to ourselves, untrue to our oaths, untrue to society, if we fail to see that every case is reported and kept under treatment until it is no longer a menace. If a fellow wants to go to hell, let him go—but let him go alone, not put this curse on those who are still alive, and on the generations yet unborn.

MALARIA CONTROL WORK IN ALABAMA.*

By DR. S. W. WELCH.

In 1917 Alabama had a malaria problem of considerable importance. Evidence of this is shown in a map prepared by the Engineering Division of the Alabama State Board of Health, and based upon records of the Bureau of Vital Statistics. Six countries had a rate of more than five deaths per ten thousand population from malaria in that year. This indicates a serious malaria problem; forty-two countries had a malaria death of from one to five per ten thousand population. Here we have a malaria problem of moderate proportion which covers somewhat more than half of the total area of the State; nineteen counties showed a malaria death rate in that year of less than one person per ten thousand and indicate either a very slight incidence of this disease or its absence as a public health problem.

A similar map for the year 1921 shows no counties which had a malaria death rate of more than five per ten thousand population. Only thirty-two counties showed a rate of from one to five deaths from malaria per ten thousand population, while thirty-five qualified for the group having a rate of less than one death from malaria for every ten thousand of the population. The

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area which is practically clear of malaria was almost doubled in the five-year period.

The malaria record of that five-year period is further shown in a chart which compares the malaria death rate per hundred thousand population in Alabama with the rate for the United States Registration Area during the same period. This shows that while the death rate from malaria in Alabama was more than cut in half during the period in question, the malaria death rate in the Registration Area was slightly increased, the rate in Alabama in 1921 was only three times as great as that in the Registration Area while in 1917 it had been seven times as great.

The accomplishments of five years were then:

1. Serious malaria problem no longer in evidence in any county in Alabama.

2. Number of counties having moderate problem reduced by one-third.

3. Number of counties free from malaria doubled.

How was it done? That I take it, is the question in which this group is interested.

Our first introduction to malaria control methods were the war time activities set in motion within the Army Cantonments, of which there were three in Alabama. At the close of the war Government forces were withdrawn and all of this work discontinued; these war-time demonstrations in addition to protecting the health of soldiers and workers had a marked educational value.

First: They acquainted the general public in the vicinity of the camps with successful methods of malaria control.

Second: They led the public health officials to several important conclusions with regard to the feasibility of malaria control programs. Stated briefly these are:

1. It is useless to attempt malaria control without the support of a local governmental health agency to see that the work is made permanent.

2. In spite of the fact that towns are likely to make the earliest demand for malaria control activities, the malaria problem *per se* is a rural rather than an urban problem and necessitates the dispatching of engineers into the rural districts and the initiation of malaria control measures on a country-wide basis.

Upon these fundamental policies established as a result of our observation of the earlier demonstrations, The Alabama State Board of Health shaped its program for malaria control.

Mosquito control has come to be identified with malaria control, main reliance being placed upon control of the insect vector anopheles quadrimaculatus; defense measures such as quinine and screening being temporary in effect, are considered of secondary importance.

Elimination of these insect pests is a source of much satisfaction to the community affected regardless of its value as a public health measure.

Another consideration that has added the popularity of mosquito control work is the fact that during a recent epidemic of dengue fever localities which were practically free from mosquitoes were also free from this disease with the exception of a few imported cases.

Our problem has been to adapt this program to our plan of organization for county health work which covers twenty-two of our sixty-seven counties and serves 51 per cent of our population.

Malaria control on a county-wide basis has been supplemented in a number of instances by demonstrations in towns which are not served by county health organizations, these are undertaken upon request largely for the sake of their educational value.

Through the United States Public Health Service and the International Health Board, five engineers were made available to the State Board of Health. Each is assigned to a district which includes all of the several organized counties. The engineer's duty is to visit and consult county health officers with regard to the malaria problems of his county. The health officer and his inspector locate the problem, the engineer advises as to its solution, and the health officer and his force then undertake malaria control work under the supervision of the engineer. The methods of control include ditching, oiling and stocking bodies of water with gambusia and screening. In ditching and draining the agricultural value of the project has been emphasized and the interest of Farm Bureaus and Chambers of Commerce has been enlisted in an

effort to induce land owners to assume financial responsibility for these projects. Drainage and agriculture go hand in hand and a number of large drainage projects have been inaugurated as business enterprises in which we participate to the extent of furnishing the advisory service of an engineer.

Oiling and other methods of control of mosquito breeding in and around towns and household premises offer a wide field of co-operation in which the household and the school children may be interested and urged to participate.

It is the opinion of the writer that effective mosquito control by the use of gambusia offers large possibilities at less cost in destruction of larvae than any other one method of control of mosquito breeding.

The engineers are careful to point out that effective use of gambusia is subject to a number of conditions which are notably uncertain. For example:

Effective gambusia control in ponds depends on absence of game fish, aquatic vegetation and floatage, presence of suitable food for gambusia to insure propagation and presence of an abrupt shore line which eliminates the shallow marshy spots sometimes found bordering lakes and ponds and affording breeding grounds for mosquitoes which are inaccessible to top minnows. But taking all of these uncertainties into account, I believe that gambusia control is one of the best investments we can make in view of the results secured.

Commenting upon the present status of malaria control work in Alabama, I would say that we have our problem in hand. We know where it is and we know that it is confined to certain localities. There is a large area in the southeastern part of the State adjacent to the Chattahoochee River; the valleys of the Alabama and Tombigbee rivers constitute a central region which has a moderate malaria problem; the western section of the black belt also requires attention while in the lower Tennessee valley there is need of further malaria control measures. But Alabama has no bad endemic foci of the character such as are found in other sections of the South. Certain parts of the State are entirely free from malaria; each year adds additional free area.

The economic value of a decrease in physical unfitness of a large proportion of the population is markedly apparent and is winning the increasing recognition of investors. Information properly disseminated throughout the north and west will attract farmers to our cut-over pine lands and will bring industrial projects to our waterways, increase our land values and reduce our tax rates.

The physical and intellectual energy which has formerly been wasted in chills and fever, together with the money which has been wasted on chill tonics and doctor's bills will be devoted to the education and upbuilding of the citizens of our State.

Malaria will be eliminated—How long will it take to do it? And how much will it cost? These questions do not call for a prophecy or for visionary results, they call for a careful estimate of budgets and an intelligent shaping of programs, the development and leadership of manpower and brains to do the job. Alabama has the advantage of a State-wide health organization which reaches into every county of the State. It has a plan for financing and extending its activities so as to cover the State in another five years. Success depends upon building organizations which will lower the sick incidence and death rate from malaria. This is the language the people can understand and they have been converted to this policy.

DISCUSSION.

Dr. H. E. Miller (New Orleans): It is a very great pleasure, ladies and gentlemen, to follow such a paper as has been presented to you by Dr. Welch, which is abounding in the evidences of practical work. We have been studying malaria a good while in the United States, especially in the Southern States, and have thought that we were getting somewhere with it. A great many different spectacular examples of malaria control have been carried on here and there, and yet almost without exception up to the present time these demonstrations have been confined to urban populations.

As Dr. Welch has so aptly pointed out in his paper, malaria is not an urban disease, but a rural disease. We have known that for some time, but have not come to acknowledge it, and I think the reason is pure cowardice. We know it is easy to control malaria in an urban population, but it is not an easy matter to control malaria in a rural population, and the problem has been so baffling that he have been afraid to tackle it.

The favorite trend of malaria work is to investigate and keep on investigating. In-

vestigation is very proper, but there has come a time when we must get down to work on malaria. We know enough about it now, enough about the habits of mosquitoes and their breeding places and methods of transmitting disease to give us pretty satisfactory ammunition against malaria, if we only use these facts we already know. There are many things yet to learn about malaria, but practical application of our present fund of knowledge will allow us to carry on that sort of work which contemplates rural malaria control as well as urban. And Dr. Welch has indicated the manner in which that should be carried out, namely, in connection with established, organized, and permanent local health organizations.

Another point which Dr. Welch brought out, which I think is well worth considering a second time, is the fact that malaria is not a disease which is equally dstributed over any one State or parish. If you take the map of Louisiana—a contour map or a soil map—you might be led to believe that the whole southern end of Louisiana is the point of election for malaria. As a matter of fact, that is not true. The concentration of malaria is along the fresh water courses—the Mississippi Valley, the Red River, and other rivers of that nature. In individual parishes and communities, likewise, the distribution of malaria is as a rule not uniform. So that we do need some investigation to determine as to what our problem really is, where it is, and how extentive it is. But the methods which Dr. Welch has employed in Alabama are not necessarily of equal value in Louisiana.

Dr. W. S. Leathers: I feel that this paper should not pass without commenting upon one or two aspects mentioned.

In the first place, I want to refer to the fact that in doing public health work over the country, there are problems in each section peculiar to that particular territory. In certain sections of the United States there is marked congestion of population which presents certain health problems that are not applicable to the South, and in view of the fact that we have not infrequently been blamed in the South for having certain conditions that are against industrial development, I think the time has come when we ought to throw the challenge right back into the face of that section of the country that places the Southern States in the position of not dealing with its health problems in a scientific, intelligent, aggressive and progressive way.

I happened recently to look up some statistics in regard to the public health work in the United States and I found that during the past seven years the appropriations for public health work in eleven Southern States have increased 314 per cent, while in the remaining thirty-seven States of the Union, it has increased about 145 per cent, showing the remarkable progress in the South in making appropriations for public health work, from the standpoint of being provided with adequate funds.

The second thing is this: One of the best signs of progress in public health work is the improvement in local health organization. The most important thing for this State or any other in health work is not to build up too great a central health organization, but to improve and emphasize the value of local health organizations and increasing their efficiency. What do we find in that respect in this country? In eleven Southern States 72 per cent of the all-time county departments of health are found; in the remaining thirty-seven States we find 28 per cent; showing the remarkable progress made in the South in this respect and that it has attained the position of constructive leadership in public health. Facts show this to be the case, and I think the time has come when we ought to indicate to the people of the United States that the South is handling its health problems in a scientific and intelligent way; that we are getting rid of malaria, hookworm and typhoid rapidly and improving general sanitation. Malaria has been reduced in the South in the past ten years 30 per cent. That means definite and gratifying progress. I think the index of the advancement of any section of the country is the intelligent effort which is being made to improve health standards and thereby place it upon a sound industrial basis. I believe the South presents a greater opportunity for development along industrial lines than any other section of this country. (Applause.)

THE CONSERVATION OF CHILD HEALTH.*

By DR. W. S. LEATHERS,
Jackson, Miss.

Fifty years ago there was practically no attention being given to child health in this country. In fact, prior to 1872, the child had scarcely been discovered as a unit of society. The effort that was being made at that time in behalf of the child consisted chiefly in providing him with food and shelter, caring for him when sick, and visiting punishment upon him when he violated the law. For the child whose mother was obliged to work there were only six day nurseries provided preceding the year 1872, in the United States. Hospital facilities for children up to this time were utterly inadequate, and special children's hospitals were almost unknown. The first hospital for children was established in Philadelphia in 1855. Some two years later the Nursery and Child's Hospital was opened in New York City and small special hospitals for children were established in Chicago in 1865 and in Boston in 1896. In reviewing the development in child health work in the United States it is

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evident that it is essentially a growth of the twentieth century, and in looking over the progress of the past twenty years, the first important step was taken in giving emphasis to the modern movement in conservation of child health by the publication in 1906 by the Census Bureau of the mortality statistics for the five years 1900 to 1904, inclusive. There were records of vital statistics in restricted localities before this date, but no report up to this time gave much attention to child mortality. The next most important step was the establishment in the Department of Health of New York City in 1908 of the division of child hygiene. This was the first official recognition of the importance of child hygiene as a governmental problem requiring special attention at the hands of health authorities. Then in 1909 the conference on prevention of infant mortality was called by the American Academy of Medicine in New Haven, Connecticut, and for the first time an enormous amount of material was collected and presented emphasizing to the public the high mortality among infants and facts were also presented showing that it was largely preventable.

Following this conference, the American Association for the Study and Prevention of Infant Mortality was organized and its work has continued along most successful and practical lines. Another notable step was taken in 1912 in the conservation of child health in the establishment of the Federal Children's Bureau, and for the first time the Federal government expressed a definite interest in child health and made provision for a special organization for the study of child health problems. In turn, the New York State Department of Health established a division of child hygiene, which was the first State Department of Health creating a division of child hygiene by legislative enactment. The awakening of the public in child health was further stimulated by the creation of the birth registration area and the publication of birth statistics by the United States Census Bureau in 1915. For the first time, birth statistics became available for making a comparative study of infant mortality.

During recent years a number of voluntary health agencies have been organized throughout the country and perhaps the most efficient of them is the National Child Health Council which was established in 1920.

These facts of historical interest in the promotion of child health in the United States are given to indicate and to emphasize the outstanding fact that the nation-wide movement in the conservation of child health is a very recent development. Health authorities and educators are just beginning to rightfully emphasize the health problems of the child as they are related to the promotion of the health of the nation, for it may be truly said that no health work can be successfully done unless it is focalized upon the child as the most potential unit of society.

The conservation of the health of children by a State department of health pre-supposes a definite program. The program that may be used would vary in different States and also in different localities of the same State, but there are certain essential features that should characterize any effective program for the protection of the health of the child. In the development of the fundamental principles involved in child health work, it would perhaps be of more interest and practical value to present the program which has been developed in my own State, and indicate the plan of operation.

The State Department of Health of Mississipi has a well-organized division of child hygiene with a director and competent staff. There are three divisions under the Bureau of Child Welfare, namely:

The Division of Nutrition,

The Division of Maternity and Infant Hygiene, and

The Division of Mouth Hygiene.

In addition to these three definite phases of work, there is being operated under the direction of the bureau what are designated as "county child welfare units," each of which consists of a physician and a nurse. The child welfare unit is under the immediate direction of the director of the bureau. The unit is assigned to counties upon the condition that the county board of supervisors will appropriate an amount of money equivalent to the amount that will be expended in the county by the

State Board of Health. In other words, the State Board of Health requires that all expenditures of the county child welfare unit be made upon a fifty-fifty basis between the county and the State, recognizing the principle that all health work should be done in such a way as to create a sense of responsibility not only on the part of the individual, but also on the part of the local government. The objective of the child welfare unit is to conduct a general educational campaign throughout the county by having conferences with the parents and working almost entirely through the schools. The condition upon which the appropriation is made by the county for such work is that all the children in the county in attendance on the schools shall receive a medical examination and that a record shall be made indicating the physical defects found among the children. It is also made clear that the proper follow-up will be done as far as it may be possible by the health unit while in the county, based on reports made to the parents of the physical findings indicating whether or not the child requires tonsil work, correction of eye defects, or whatever defect may be found. It requires from four to six months to make an adequate medical examination of the children of a county of average size, together with the educational and follow-up work that may be necessary to vitalize the campaign. The program of the child welfare unit which is followed in Mississippi consists of:

1. Physical examination of the school children.
2. Placing health and weight records in all schools.
3. Inspection of each school building and premises.
4. Examination of pre-school children and infants as special educative demonstrations.
5. Distribution of health literature.
6. Organization of a county child welfare committee.
7. Educational work.
   (a) Health lectures.
   (b) Moving pictures.
   (c) Health plays.
   (d) Newspaper service.
8. Follow-up work to secure correction of defects found.

It is the concensus of opinion of health authorities, based on the analysis of the medical examination of some two million children, that only about 10 per cent have the physical defects corrected unless some plan is devised for intensive follow-up work. This means that following the medical examination of the child, that the consequences of not having the defects corrected must be so presented to the parent as to arouse intelligent interest resulting in co-operation with the health authorities in having the physical corrections made. Much corrective work is accomplished while the county child welfare unit is engaged in making the medical examination of the children, but the results that have been achieved in this way could not be regarded as of economic value based on the expenditure incurred. It has therefore, been our plan to place in the county, following the medical examination by the health unit, a competent nurse who works in co-operation with the medical profession, the parents, and the teachers in securing a much larger number of corrections than would otherwise be possible. It is the plan of the Board of Health not to attempt any corrective work except with the co-operation of and under the immediate supervision of the medical profession of the county. In this way, we have found it possible to bring closer together for the common good, the practicing physicians, the parents, and the people generally in developing a higher health standard for the children. An essential phase of the work in the county is the educational program which enlists the interest of the people generally in the promotion of public health work. One of the by-products of this work recently has been the organization and training of what are termed "classes in home nursing." These groups are given elementary instruction in the care of the sick in the home, including the preparation of food, simple principles necessary in the prevention of the spread of infection, and personal care of the patient. By means of the above plan of follow-up work the State Board of Health has been instrumental in having the physical defects of many thousands of children corrected during the past few years, and what is even more important, the work has stimulated a larger in-

terest on the part of the profession and broadened the vision of the public in assuming repsonsibility for the conservation of child health.

There is no phase of public health work which has been more neglected than that of nutrition. As a result of the systematic examination of school children and the findings that have been recorded showing that from 20 to 30 per cent of them are underweight and that the physical condition of these children in numerous instances shows a low state of vitality resulting in physical inefficiency and susceptibility to disease, the problems of malnutrition must be given the most careful consideration in the conservation of child health In this connection, it may be stated that there is no phase of public health work which is more amenable to being made a fad among social workers and those who place improper emphasis upon the findings of medical examinations than is nutrition. Every pediatrician has reached the point of view that malnutrition is more of an individual than a group problem. When it is known that there are a number of causes for malnutrition, among them being physical defects, parasitic infection, bad economic conditions the environment of the child, undesirable health habits, it becomes a problem of considerable magnitude. In making a medical examination, therefore, of a group of children, it must be kept in mind that the child showing underweight frequently is not suffering from mal-nutrition because of insufficient food, but on the other hand, it may be due to some physical defect such as hyperthyroidism, cardiac disease, improper sleep, or lack of the proper kind of food or an improperly balanced ration, and many other causes that might be mentioned. Malnutrition, therefore, should not be looked upon as a disease, but merely a symptom indicating a condition that requires a careful physical examination. If the treatment of the mal-nourished child is attempted in large groups, it will inevitably lead to serious error in numbers of cases. While the propaganda which has been used in recent years for the improvement of under-nourished children and malnutrition has probably done a great deal of good by calling attention to the physical condition of the child, still I think too much emphasis cannot be placed upon the point of view that malnutrition should not be regarded as a group problem, but rather a problem of the individual child, and not infrenquently requiring medical attention.

With these facts in mind, it has been our plan to have one who is especially trained in charge of the division of nutrition under the Bureau of Child Welfare. This work is projected throughout the field health program of the State Board of Health and an effort is also made to utilize all voluntary agencies such as the American Red Cross, Parent-Teacher's Association, and Women's Clubs, in giving the malnourished child proper consideration. The program which has been arranged for Mississippi in this work is as follows:

1—A State supervisor to have charge generally of the nutrition activities of the Bureau of Child Hygiene.

2—To supervise nurses or others qualified in the formation and development of a nutrition program, following the physical examination of children, pre-school children and babies, in those counties having Child Welfare Units, Rural Sanitation Units, Full-time Health Officers, Active Nursing Service, and upon request other counties and communities as time permits. The general program is to embrace:

   a. The regular weighing and recording on the weight record charts of all school children.
   b. Advocating the milk drinking habit for all children—milk delivery at schools.
   c. School lunches, improving those brought from home, and, if possible, providing hot lunches at school.

3—Organizing and conducting "Growth Classes" and "Mother-Child Conferences" for underweight children and babies.

4—Educational work, talks to parents, children, schools, clubs, and other organizations.

There is no phase of public health work which is justly receiving more emphasis at the present time than maternal and infant hygiene. About forty-five States have created bureaus or divisions of child hygiene and the majority of them are co-operating with Federal government under the provisions of the Sheppard-Towner bill.

The need for such work is evident based on infant and material mortality rates. In 1915 the infant mortality rate

in the United States registration area for births showed one hundred deaths per thousand births and the maternal mortality rate was six and one-tenth per thousand. In 1920, the infant mortality rate had been decreased to eighty-five and eight-tenths, but the maternal death rate had increased to eight per thousand. The total number of maternal deaths in the registration area for deaths in 1920 was 16,776. Statistics show that the infant mortality rate has gradually declined during recent years, but the mortality rate during the early months of infancy including deaths caused by premature birth, congenital debility, and injuries at birth shows no substantial reduction.

The maternal death rate has shown no improvement since 1900. The dominant cause of maternal deaths is puerperal septicema which is known to be largely preventable. This indicates that modern knowledge of the causes and prevention of infection as successfully applied to surgical practice has not been so effectively used in obstetric practice. The fact that approximately one hundred and forty thousand infants die annuallly in the United States before attaining three months of age, together with the failure to decrease the maternal mortality, further emphasizes the need for public health work in material and infant hygiene. This work must, of necessity, be based upon an educational program. The division of maternal and infant hygiene of my own State has been legalized by legislative enactment and the work has been organized upon an efficient basis. The program which has been arranged for this work is as follows:

1—To supervise and direct special nurses in the field, whose duties are to be as follows:

- (a) Investigate, instruct, issue permits and further supervise midwives with the co-operation of the County Health Officer.
- (b) Lectures and demonstrations to groups of mothers and other interested individuals.
- (c) Supervisory care of women during pre-natal, natal and lying-in period.
- (d) Instructions with reference to care and feeding of infants and pre-school children.
- (e) Organization of local committees.

2—What we hope to accomplish:

- (a) Decrease the number of cases of Ophthalmia neonatorum.
  Blindness,
  Material invalidism,
  Infant and maternal deaths due to ignorance, carelessness, and neglect before, during, and after child birth.
- (b) Raising the health standard of mothers in rearing and training children.
- (c) More complete birth registration.

One of the most serious problems with which we are confronted in protecting the lives of mothers and improve ing health standards for infants is the deplorable fact that a large percentage of mothers are attended during confinement by ignorant and careless midwives. In my own State there were 45,050 births during 1922, and of this number, 16,425 births of white children and 3,316 births of negro children —a total of 22,741 births were attended by physicians, while 16,777 births of negro children and 1,926 births of white children, a total of 21,703 were attended by midwives. It is interesting to note that 606 births are recorded as having been attended by neither midwives nor physicians This shows that approximately 50 per cent of the births of this State were unattended by physicians, but on the contrary, the mother was given the necessary aid during the birth of her child by ignorant and in the main filthy midwives. It is, therefore, clear that one of the important problems in the reduction of maternal mortality and the decrease of infant mortality is the midwife problem.

The public welfare seems to demand the practice of midwifery at the present time, but it is most unfortunate that the ignorance of the present-day midwife makes the practice of midwifery a menace to the public health. A survey of the midwife problem shows in an unmistakable way the need for reform in the existing conditions in the practice of midwifery. When it is realized that more than 90 per cent of the midwives in a State can neither read nor write and in the majority of cases are uninformed in the simple principles of cleanliness, the midwife problem becomes one of grave import in the protection of the health of the mother and the reduction of infant mortality. In view of these facts, it is imperative that

midwives be permitted to practice only when they meet certain qualifications determined by careful supervision, instruction and examination upon essential information required in attending a normal child birth. In Mississippi the plan has been used during the past two years of having a State supervisor of midwives, a well educated and trained nurse who has visited each of the counties of the State and conducted a course of instruction during as much as two days for the midwives of the particular county. In giving this course of instruction they are advised relative to the simple principles of cleanliness, what to do and what not to do, in attending a case of child birth and are also required to provide certain equipment necessary in the practice of midwifery. If they measure up to the minimum requirements established by the Board of Health they are issued permits which are continued from year to year, provided the midwife complies with the regulations of the State Board of Health for the practice of midwifery, While we realize the extremely difficult problem of informing and properly instructing midwives who are in the main ignorant women, qualifications for the practice of midwifery in the future are being determined, and it is believed that progress is being made and that substantial results will be obtained over a period of years.

The program of maternal and infant hygiene should be so planned as to secure the intelligent interest and co-operation of the medical profession. In Mississippi the State is divided up into four districts and district nurses are placed in charge of each territory. The supervising nurses have a definite program which when completed during the year will be a means of making the work of State-wide interest and value. In turn, in a number of counties in these districts, there are nurses who are conducting an intensive campaign in maternal and infant hygiene. In this way, we hope to show the value of intensive work in certain counties in each district and it will be possible in this way to make a comparative study of the indirect value of the work in the respective counties upon the district at large. It will be seen that by this plan a general educational campaign is being conducted throughout the entire State, which in certain counties an intensive campaign is being made with the intention of making a careful survey, the information from which will serve as a basis for correctly evaluating the methods used and the results obtained,

The analysis of the medical examination records of more than sixty thousand children in Mississippi during the past two years shows that about 75 per cent have defective teeth. This means that of the six thousand school children in the State, approximately four hundred and fifty thousand are in need of dental treatment. This data substantiates the condition which is claimed to be found the country over, namely, that of the twenty million school chiildren in the United States about fifteen million show defects in mouth hygiene. Believing that oral hygiene presents one of the most far-reaching public health problems, it has been our privilege to organize a division of mouth hygiene in the Bureau of Child Welfare of the State Board of Health for the purpose of conducting in a systematic way a campaign for educating especially the children in mouth hygiene. This work is in charge of a State supervisor who travels from county to county paying special attention to the larger towns and agricultural high schools, the object being to use certain strategic points at the outset in demonstrating the importance and value of this work and in increasing interest in mouth hygiene in a State-wide way. This work is being done largely in co-operation with the dental profession, teachers, health officials, and the parent-teachers associations of the respective counties. Suitable and attractive literature is being prepared for use in the schools with a view of enlisting the interest of the children in promoting proper health habits in caring for the teeth. It is a source of gratification to state that during the past year as many as five white schools of considerable size have been successful in obtaining 100 per cent dental corrections among the children and in one of the towns this result was obtained in both white and negro schools. As a result of the campaign that is being conducted in this way, a State-wide interest is being created particularly among the children in this im-

portant phase of hygiene and there can be no question but that it will have a far-reaching effect in time upon the health ideals of the citizenship of the State. The program which has been arranged in the division of mouth hygiene is as follows:

1—to teach truths of mouth hygiene through newspaper, moving picture, and lectures.
2—To impress upon those who train children the importance of forming the habit of properly caring for the teeth in early childhood.
3—To acquaint parents and teachers with the general mouth conditions that exist in children.
4—To secure dental inspection of children, to furnish each parent with the results of such inspection, to keep a record of inspection in the school room.
5—To perfect a series of illustrated lessons on mouth hygiene suitable for each school grade. To strive to have these lessons properly taught and followed up in the school.
6—To have an endorsement of the State Dental Association in conducting educative demonstrations in such operative work as is thought beneficial.

In conclusion, the program for the conservation of child health should be based upon a well-planned system of education of the mothers, children, and the public at large. As a part of the plan there should be a well-devised system of physical education for school children, including supervised play and work.

The program of child health should be made known to the medical profession and their intelligent interest and co-operation secured; and more correlation and co-operation of activities should be effected between the health authorities and the leaders in education throughout the State. The quickening of the health consciences of the educational leaders throughout the State and the broadening of the vision of the general public by an effective program in the conservation of child health and through it the promotion of public health broadly speaking, should be a means of attaining the largest possible results in health education and in raising the health standard of the citizenship of the State.

DISCUSSION.

Dr. F. J. Underwood (Jackson, Mississippi): You have just heard outlined to you the program for Mississippi. It is to Dr. Leathers that credit must be given for this program, and I am happy to be associated with him in this work. A number of years ago as health officer of Monroe County, Mississippi, I became interested in child hygiene, and I attempted to make a physical examination of all the children in that county. I had associated with me in the work several good dentists, and a good eye, ear, nose and throat man. I had been practicing general medicine for a number of years, but had not realized at all the wholesale neglect of Child life.

At the begining just going into the school and examining the children and sending notice to the parents of the defect or defects of the children was all we could do, because we had no public health nurse to do follow-up work. We secured at best about 10 per cent correction of defects found. That was the best we could do then. But by-and-by a public health nurse was placed in the county, placed at our disposal, and with this competent, tactful, experienced woman going into the homes and getting up close to the parents, as only a good nurse can, we were able to secure in a few communities 50 to 75 per cent correction—quite a different story.

We know now that the bigggest end of the proposition is the corrective end. We assume full responsibility for the examination of school children and pre-school children and infants, and the responsibility for the correction is placed, where it rightfully belongs, on the medical profession, and right well they have measured up in Mississipi to their responsibilities. Very few physicians have not come up to what was expected of them. I do recall one or two instances where there was some little embarrassment, but only one or two. In the main we had the support of all the physicians in our work. The past two years have witnessed a notable advance in our knowledge of the causes of malnutrition in school children and the extent to which it occurs. Very definite steps have been taken both in the way of proper education of the mothers and teachers along nutrition lines and also in the actual setting up of nutrition classes in very large numbers in the public schools. Recently there has been much study for the prevention of tuberculosis in infancy and childhood.

Only recently has dental hygiene been properly emphasized. The needs for better care of children's teeth is stressed everywhere and communities here and there are taking steps to correct dental defects. The hindrance to progress in our state has been the lack of sufficient help to carry out even in early school life all the prophylactic and corrective work that is found necessary.

I have enjoyed very much being a guest of your Society and hope to see many of you at out state meeting at Vicksburg next month. I thank you.

Dr. C. V. Unsworth (New Orleans): I would like to ask Doctor Leathers if he will define what he means by physical examination. He speaks of the eye, ear, nose and throat. I would like to ask him if he makes a mental survey. In other words, if the cen-

tral nervous system is examined. I think if that is not done it should be done.

Dr. W. S. Leathers (closing): We do not make an examination of children which is exhaustive or exhausting. We find if we make an examination which is too tedious it defeats the object of the work, and therefore the examination is directed so as to get the largest possible result consistent with this idea. It is well known that 95 per cent of the physical defects of children are above the shoulders—eye, ear, nose, throat, teeth, and, therefore, that part of the body should be carefully looked over. The general nutrition of the child is observed. If it is suspected of having hookworm disease, malaria, or some of the other diseases which are responsible for malnutrition, that is looked into. We do not emphasize chest examination as a uniform procedure because it takes a great deal of time and the findings would not be satisfactory in proportion to the expenditure of time and money. If we think a child has heart trouble, of course the heart is examined; also the lungs. So we try to make the examination thoroughly practical and productive of good, but not exhaustive as far as the child is concerned. Incidentally, mental hygiene is not given a great deal of attention at present.

In concluding this discussion I want to express a keen appreciation for the opportunity and privilege of being on the program. I have never had the pleasure of attending the Louisiana State Medical Society. I have a very high esteem for Dr. Dowling, your health officer, having known him for years, and those who know him feel he has done a great work for Louisiana and he has also been instrumental in promoting health work throughout the country, and I am especially glad to be associated with him. I thank you. (Applause.)

HEALTH EDUCATION.*

By ROBERT T. LUCAS, M. D.,
Shreveport, La.

In the medical profession there is more inertia than there should be towards education of the laity in health problems. We are rather negligent as individuals and as medical organizations in our duty as leaders in directing public thought and moulding public opinion. Most medical information reaches the public through newspapers and magazines and especially through patent medicine advertisements. It is needless to call your attention to the vast amount of misinformation the latter disseminates.

Health education should have its part on the programs of the churches, Sunday schools, civic bodies, Boy Scouts and Girl Scouts, industrial organizations, and the schools, not to mention the medical organizations. Such education is a part of the programs of some of these bodies. An advanced Boy Scout knows more about health and disease than three-fourths of the adult population. As parts of these various bodies it is our duty to see that they do their share in the advancement of health education.

Considerable progress has been made in health education and health control in Louisiana and elsewhere. Physiology is being taught in the public schools. The welfare of our school children is being watched over by school physicians and nurses, and in some cases by physical directors. In many places this teaching of health problems and health supervision of the school children is efficiently done. Is such the case in your particular community?

The greatest progress in the next decade will be made in the field of preventive medicine. The two great means at our disposal to accomplish this progress are education and prevention. With proper education prevention largely follows as a natural sequence. With knowledge of personal and public health matters the laity will observe and support measures which are for the public welfare. On the other hand, only limited and ineffectual prevention can be carried out without such understanding and support on the part of the public.

Only a small percentage of our population understands the simplest facts about tuberculosis, malaria, typhoid fever, and the other common diseases. It is in our power to make practically the entire population a few years hence understand the elementary facts about disease and health. With such knowledge almost universal you would expect nothing less than active co-operation in such measures as are necessary for the public welfare. Smallpox, typhoid fever, and diphtheria can be practically eliminated and the incidence of other diseases markedly reduced. The degree of progress is proportional to the amount of health education possessed by the public. The instruments for such education must be you and I working through the medical societies, churches, schools, civic bodies, in our offices, on

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the street, and in our homes. The times when we fail to take advantage of the opportunity to impart proper health information and to correct misinformation we are shirking our duty.

Louisiana should have a State law making vaccination a requirement for admission to the public schools. If we are not ready for such a law this is all the more reason for an active campaign of education to prepare for what we so obviously need. The smallpox incidence in our State is nothing of which to be proud. Last year one hundred and thirty-eight cases of smallpox were reported in children of school age, six to eighteen years. I am ashamed to admit it but my parish, Caddo, headed the list with the largest number. Following an epidemic of smallpox in New Orleans a few years ago vaccination is being strictly enforced as a requirement for admission to the public scholls. If we result, Dr. Dowling informs me that he does not know of a single case of smallpox developing last year. We can only speculate as to how many cases might have been prevented from developing had these one hundred and thirty-eight school children been protected by vaccination, and therefore the one hundred and thirty-eight foci of infection not existed.

I shall quote the conclusions the United States Public Health Service arrived at by analysis of smallpox and vaccination data from twenty States, including Louisiana, for a period of five years:

"It is evident that smallpox in this country is dependent on the popular vote. In general the people obey laws which they have made. If popular sentiment in a State is behind a strong centralized compulsory vaccination act, smallpox is negligible in that State. If local authorities are given discretionary powers in the matter of vaccination enforcement the rate tends to rise, even in the most favored sections of the country, whereas in the absence of compulsory features in the law, or where there is no law at all, smallpox reaches a high rate."

Let us educate the laity to the possibilities of immunization against diphtheria and typhoid fever as well as against smallpox, and at least make it easily available by school and board of health physicians for the school children to be immunized against diphtheria and typhoid fever.

In order to make most progress the measures of health education and health supervision must be carried on by the highest type and best trained men and women who, in most cases, devote their entire time to such work. These positions will rarely attract the best ability unless ample renumeration is allowed and the positions are dependent on ability rather than on politics.

I have purposely emphasized smallpox control by vaccination because it is the first step and the simplest as well as the most urgent. However it is only one step and with education in health matters progressing I dare not predict how important this field of endeavor will become.

If I have succeeded in directing your attention to our individual responsibility and to the possibilities in this field my paper will have been worth while.

DISCUSSION.

Dr. Edmund Moss (New Orleans): I am interested because I am in charge of health conditions in public schools of New Orleans. Everything he has said is absolutely true, and if we are going to get anywhere it is a matter of education. But there is one thing he proposed that I would like to mention. He said that a law should be enacted making vaccination compulsory upon entrance into the public schools. But how about the private schools? There is where the great trouble comes in. For twelve or thirteen years we have compulsory vaccination upon entrance into the public schools, and again at the end of seven years. But anyone has the privilege to leave the public schools and go to the private schools without vaccination. There is the trouble. That law should be enforced in all schools. You do not have to have State legislation to do that. I think you can work under the Board of Health laws.

Dr. J. Birney Guthrie (New Orleans): I am surprised to hear a man like Dr. Dowling, who knows whereof he speaks, get up here and say what he has.

The question of the private school—and the private school in Louisiana is largely the parochial school—is the crux of the matter of the compulsory vaccination of school children. And this is a hard question, because we know where the control of the largest number of private schools lies. The trouble is we are afraid to get up here and speak the truth, the health officers are afraid to speak the truth, they say the question must be handled "diplomatically." The trouble with the whole system is the matter of the necessity for diplomacy. We realize that diplomacy is

necessary in the absence of universal demand.

Doctor Lucas' paper is very timely in that regard. We know we have had in this community upon several occasions, notably at the time of the outbreak of yellow fever in 1905 when we had to deal with sanitation along an entirely new plane, following out the new idea in sanitation. We were able in a short time to educate the whole community, or at least sufficient numbers to sway public opinion. This is the only way we can do anything with sanitation. Education is fundamental to it. The reason worse conditions exist in the private than in the public schools is that the public does not demand that the private schools come up to the mark and submit their pupils to compulsory vaccination and other necessary supervision. I believe without consulting legal advice we could write such a law, and with the proper amount of courage back of it we could enforce such a law; but there is a certain amount of cowardice connected with the demanding of that law If the health officers would forget for a moment their politics, I believe they could swing public opinion in a comparatively short time. I was amazed and astounded to hear Doctor Dowling get up here and say that a community should be privileged to enjoy smallpox if they so chose. I know he was trying to say something funny, but from my standpoint the statement was anything but funny. It was an unfortunate statement. I do not agree with him in that respect at all. I do not feel that any individual has the right to enjoy any kind of infectious disease because he chooses so to do.

Dr. J. S. Stulb (New Orleans: When I was connected with the Board of Health the safest way to get vaccination in the parochial school was to go in and quarantine the school. That was what we did on Josephine street. We made them be vaccinated or be tied up, just the same as we tied up the Charity Hospital, and now we have compulsory vaccination in the Charity Hospital. Everybody who enters the Charity Hospital must be vaccinated, regardless of what is the matter with him. He cannot be placed in a ward unless he is vaccinated. That is the reason you do not have any cases of smallpox in the Charity Hospital. We went into conference with the Bishop and he finally consented to exact that all children must be vaccinated before entering any of the parochial schools.

SWIMMING POOLS AND INFECTION.*

By W. H. SEEMANN, M. D.,
Department of Hygiene, Tulane School of Medicine.

The recrudescence of the elaborate municipal baths has been most marked during the last score of years, especially in America. In ancient times the baths were of elaborate construction and much magnitude. The Romans, especially, excelled in the ingenuity which created means of conducting and heating water as an integral part of very magnificent architecture. Gradually, due to contaminating influences which developed around the baths they lapsed into decay.

There can be no argument about the value, to the health and pleasure of a community, of well constructed and managed swimming pools; besides, safe, easily available places where swimming can be practiced are a great boon.

Locke wrote in "Some Thoughts Concerning Education," "I shall not need here to mention swimming, when he is of an age able to learn, and has any one to teach him. 'Tis that saves many a man's life; and the Romans thought it so necessary that they ranked it with letters; and it was the common phrase to mark one ill educated and good for nothing, that he had neither learned to read nor swim. *Nec literas didicit nec natare.* But, besides the gaining a skill which may serve him at need. the advantages to health by often bathing in cold water during the heat of summer, are so many, that I think nothing need be said to encourage it."

There is no exercise which, done with moderation, can equal, especially in summer time, swimming, as a benefit and a pleasure. The public swimming pools provide a means to this enjoyment and are patronized, principally, by young people and every safeguard, moral and physical, should attend their conduct.

Our interest, as medical men, lies chiefly in disease prevention and with regard to swimming pools much responsibility is our lot. They have been implicated in disease spread on occasions, sometimes, justly and, more often, in our own experience, unjustly.

Diseases of the eye, ear, nose and throat are more frequently attributed to infection, acquired in swimming. Skin diseases are frequently traced to bathing, and occasionally, more serious infections, by the gastro-intestinal route, have had their origin in polluted bath water. Cases of furunculosis of the external auditory canal and *otitis media* have frequently been the results of swimming pool infection.

In our own experience, occasional infections of the ear have come to our

*Read Before the Louisiana State Medical Society Meeting April 24-26, 1923.

knowledge, which have been apparently traceable to swimming pools. No doubt, the macerating effect of the exposure to the water on the mucous membranes and skin renders them more liable to immediate or later infection. This is especially true when the water contains excessive amounts of sediment, which act as excoriants and irritants, producing itching and a desire to rub and pick at the parts. In this connection it must be remembered that, due to the lowered resistance of the parts, infection may occur from bacteria already harbored by the individual, as well as, from those freshly acquired.

It is our duty to maintain a watchfulness over these swimming pools that the opportunity for bacterial infection or the irrigation from foreign matter may be reduced to a minimum.

No universally accepted standards are available, by the use of which one can, so to speak, by rule of thumb, classify readily a swimming pool or bath house. It becomes necessary to adapt as best we can such practical truths as have been demonstrated to local possibilities.

Good light, ventilation, ample shower bath facilities, good drainage, proper toilets, careful supervision of the bathers and their suits, and an ample supply of water, of drinking quality standard, are the necessary requirements that are needed to initiate a first-class swimming pool; to maintain one, is a more difficult problem.

Many persons do not realize that the swimming pools are not supposed to fulfill the functions of bath tubs, but are intended as media in which clean bodies may be afforded pleasurable exercise. Even with conscientious scrubbing with soap and water and the copious use of showers some parts in the folds of the body will retain minute amounts of excreta which are, later, by the effect of the maceration and attrition due to swimming yielded up to add to the contamination of the water. In persons of careless or unclean habits, pollution, obviously, in greater and more certain amounts, is thrown off.

The inevitable washing out from the noses and mouths of the swimmers of mucus, which, on account of its inclosed air, floats for some time, offers another source of contamination to the water and infection to the swimmer. No doubt some of the cases of sore throat and "pink eyes" are due to such conditions.

One fertile source of bacterial contamination, certainly important in increasing the numerical content, is furnished by the bathing suits and towels. Investigations have shown, in some reports, as many as 1,000,000 bacteria per square inch of used bathing suit, and the average is 150,000. In most bathing pools little, if any, attention is given to bathing suits and towels. Generally, they are squeezed out and bundled up, until the next day, sometimes hung up to dry and occasionally rinsed out. Towels, which are even heavier carriers of pollution, are frequently used promiscuously by several persons, and receive even less attention.

In determining the satisfactory sanitary condition of a pool, methods similar to those used for the sanitary analysis of water are employed. A search is made for the presence and amount, if present, of contamination with the colon group of bacteria, showing the presence or absence of contamination with excreta from the bathers. After the observation made above, it must be obvious, that this method is varying in its results, and at best uncertain. The colon content will increase directly with the numbers of the bathers, unless a constant overflow of water is maintained or continuous disinfection is practiced.

On account of the scarcity, or high cost of production, it is not always feasible to provide a sufficient amount of potable water, to make adequate replacement to meet the desired dilution. Under these circumstances, chemical disinfection must be resorted to. Calcium Hypoclorite, Chlorine gas, Ultra Violet Rays or Ozone with a recirculating system are the means usually employed. The New York City Health Department workers seem agreed that Ozone is the most efficient. Our own experience has shown that chlorine gas, or even cacium chloride, if carefully used are satisfactory.

Where standards have been established the limits of colon contamination considered safe range from 10 per c. c. in one case to as much as 35 per c. c. in another.

It seems that, until we have had more informaton, this method of judging should be supplemented by a careful common sense survey of local possibilities and their effects. Adequate preliminary bathing (shower,) facilities should be provided and their thorough use insisted on. Bathing suits and towels should be individual, if possible, and in any event should be adequately sterilized after use. Good ventilation and light tend to promote physical and moral ideals and discourage filth.

A careful check of the bathers and prompt study of any diseases reported among them should be made, and any danger signal should bring prompt response in the shape of inauguration of or increasing of disinfection and, if need be, a discontinuance of the use of an implicated pool.

No arbitrary or untenable rules must hinder the full enjoyment of healthful sports and, on the other hand, apparent security must not deter the obligation for constant watchfulness.

The intention and limits of this paper do not permit any further addition to the general discussion I have made. If I have aroused interest in the subject I will be gratified.

DISCUSSION.

Dr. W. T. Patton (New Orleans): At the Southern Medical Association last year we had a paper read by Doctor Taylor of Florida on this same subject, and I was put on a committee of three to report back on conditions at the meeting in Washington.

You may have the "old swimmin' hole" in bayous of Louisiana, or the creeks of Mississippi, or the Missouri river, or the swimming tanks of the city, but you will have infection in all of them. The Doctor spoke particularly about bacterial infection. To my mind it is not so much a matter of bacterial infection as of the constructon of the ear. The ear canal is divided into the external canal, the drum, and the middle ear. The sebaceous glands do not react well to water, no matter whether it is sterile or dirty. Soak the external ear in water for two and a half or three hours, and the skin becomes macerated, and a little scratch may start external otitis, that spreads to diffuse external otitis, and we have a swollen ear. The drum is seldom affected by water. You can put in a protection if you want to, but the only injury to the drum is by concussion. If you dive you need something to prevent concussion. For protection of the ear canal against maceration and drum against concussion I do not think anything answers as well as pledgets of wool greased with vaseline. It keeps the ear dry and does not soak up the water.

A tank is dirty in three ways. First natural filth; second bacteria, and third gas which I believe is an important thing in infection. Practically everyone coming out of water tries to blow water out, he blows it into the Eustachian tube, it is stopped up and the water acts as an irritant, the ear drum becomes inflamed, and then you have a middle ear trouble.

The Doctor spoke of bathing suits. At the Y. M. G. C. we have discarded bathing suits for three years. I cannot dive without getting an infection in my nose, and I know the action of the gases has something to do with that.

Dr. A. I. Weil (New Orleans): Doctor Seemann asked me to discuss this not only from the viewpoint of the ear, nose and throat man; but also as chairman of the Health and Sanitation Committee of the Chamber of Commerce. From that standpoint it is not necessary to say much except that from time to time we have made an effort to inspect the various bathing places. Of course we know that in the tanks there is more danger of infection of the ear and other portions of the body. Infections from swimming pools can affect any part of the body, they can cause typhoid fever and other diseases, but the most important place of infection is the ear and nose. It is rather interesting to note how as soon as the warm months come on, we have so many more cases of ear infections. During the winter we see an occasional case, but about this time of year they come in two or three each day, and then six or eight each day, with diffuse external otitis, and you do not ask them if they have been in swimming but where.

It is rather curious, as Doctor Patton has mentioned, that clean water will affect the external ear as much as dirty water. We notice a good deal of difference in infections of the nose from clean water or dirty, but infections of the ear seem to be about equally divided. The explanaton I think is that the skin of the middle ear becomes macerated as Dr. Patton has said, and the slightest bruise, of course, will cause infection.

There is one important point, and that is education of the people as to the dangers of the swimming pool. This has gone on to a certain extent so that some mothers are aware of this danger and they consult us as to whether or not it is safe for the child to go to this pool or that one. I believe the question is not so much the pool they go into, as it is the condition of the nasal mucosa. If you examine a child and find the mucous membrane inflamed, an old, chronic purulent rhinitis, then it is not safe for that child to go into any pool, because he may get an infection. But if the mucous membrane is normal I think it would be quite safe for the child to go into any reasonably clean pool. Of course the dirty pools are not safe at any time.

It is rather hard to protect the nose against infection by the use of cotton or wool, as you can the ear, but you can protect the ear by

certain precautions. We all know the tendency when we get our nose full of water, especially when we dive, to blow. That is the very worst thing because it forces the materials into the ear, and so we get an acute otitis or mastoid, a serious thing.

I cannot agree that 90 per cent of ear troubles are in the middle ear. On the contrary, I would say that at least 90 per cent are external otitis or furuncles. It is rather uncommon in my experience to find a purulent otitis that can be traced to swimming pool infection, but the infections of the nose are not uncommon. I remember two years ago we had quite an epidemic of nasal infections from a dirty pool, so much so that when a child came to me I asked if it had been swimming in a certain tank, and always the answer was Yes.

Dr. Clarence Pierson (Alexandria): Doctor Seemann says that in every test made bacteriologically the ear and nose were infected. From a practical standpoint I do not think this will apply universally to bathing and swimming pools. I think much depends upon an analysis of the water and the time you remain in the pool; and also the sanitation of your swimming pool and surroundings. For instance, a swimming pool with water that comes from as much as 3,000 feet beyond the sea level, absolutely free from bacterial organisms, has been demonstrated rather a benefit than a detriment to these ear and nose conditions. The osmotic influence of the salines is beneficial.

We realize that the "old swimmin' hole" must be done away with, and the foundation as laid by the bacteriologist is the best piece of work that has been done in this line. But let us not become sway-backed in the application of this to every swimming pool.

I would like to know Doctor Seemann's experience in the use of water at a certain temperature, and whether it should be renewed at certain intervals, or what. I am asking this from a practical standpoint, because in addition to my work I conduct a large swimming pool which is a great joy and benefit to many people who are not able to take the baths.

Dr. L. C. Scott (New Orleans): Was there any distinction made between sea water and fresh water for bathing? Are diseases more prevalent among those bathing in the open sea than in tanks containing sea water?

Dr. W. H. Seemann (closing): In regard to Dr. Patton's remarks about the loss of immunity that occurs in the cells of the external ear, this lies in the Eustachian tube, in the presence of water there for a prolonged time. I think it is accepted that it does occur, but we must remember that even after it does occur, infection could not take place unless the infecting organisms are present, and that brings up the question which seems most important, and that is inspection of people before going into the pool—for their own protection. The mucus that is expectorated floats on the surface of the water in bubbles, and the next fellow that comes in swims into a bunch of these bubbles, they are taken in, and if there is lowered resistance infection takes place.

Replying to Doctor Pierson, I hoped to make myself plain that I wish to do everything possile to promote the use of swimming pools. We know that the very name of "bath," especialy to a man in Doctor Pierson's line, who has to treat so many neurological patients, suggests something that it would be a sacrilege to get rid of. We know there is nothing more refreshing than a good bath; but I am of the opinion that everything that is used in the form of a disinfectant, such as chlorine, chloride of lime, the ultra violet ray, etc., is done as a substitute for the better plan of a large volume of ever-changing water with proper drain on top.

With regard to Doctor Scott's question, I cannot answer as to the source of these infections. But this is what I am pleading for —more attention to this on the part of the specialists who can give me these statistics. In my own personal experience these sand boils were usually acquired on the Gulf Coast where the water is of moderate salinity, but it contains some sand and silt, and this going into an ear which is already macerated, causes irritation, and if the subject attempts to remove it he actually inoculates himself with the germs that are in the tank.

HEADACHE: A STUDY.*

By DR. GEO. H. UPTON.

In the embryo and in the normally developing child ,and in the young adult, this bone process is responsible for the hollowing out and shaping of the various accessory cavities of the nose (Drs. Smith and Sluder)—and in early uterine life we have chronic inflammation of the bony processes of nose and orbit as well.

a. Osteoblasts depositing bone salts.
b. Transition stage.
c. Osteoblasts absorbing bone salts.

a. Represents an edge of bone lined with ovoid cells or osteoblasts which are depositing lime salts in the formation of the bone structure. Much of the finer structure of all these sections has been destroyed by a decalcifying process. In the b. section a locality has been chosen where the ovoid cells or osteoblasts are being grouped together; but they have not as yet lost the outlines of their limiting individual cell membranes. They are grouped together so that their peripheries, or external cell membranes are touching one another. Subsequently, over the area of the surfaces which touch one another these limiting membranes disappear, the cell bodies are thrown into one; and out of

*Read Before the Orleans Parish Medical Society,

several mononuclear osteoblasts we have one large multinuclear giant cell or osteoblast, shown in c.

When in the walls of the sphenoidal or ethmoidal sinus there is an involvement of the optic nerve, in so far as it depends on bone pressure, blindness, partial or complete atrophy is pretty sure to occur. When, however, the alarming symptoms of optic involvement are recent and slight, the trouble may not be due to a bony pressure, but to a pressure of the soft parts, or to an extension of their inflammation, or of their vascular congestion. These latter conditions may be relieved by giving free drainage and ventilation to an occluded sinus; but in an inaccessible region if there is pressure of a bony surface, such as a swelling upon the sensitive or an optic nerve, it is difficult to see how the symptoms are to be relieved. Fortunately, there is a good reason to believe that in the nature of things, the encroachment of the field of engorgement and soft hyperplasia upon the nerve structures gives a timely warning so that surgical interference is possible before an irreparable condition results.

Headache, whether it be seldom or frequently recurrent and bears the names "Migraine, Bilious Headache," or "Blind" or "Sick-headache," or "Hemicrania, like all other pain, according to present thought, must be a symptom of a lesion of some kind, whether a pathological-histological change or a toxemia be (at present) recognized as its cause. Weak eyes (asthenopia) must be a symptom of a lesion, whether its nature be known now or not, and optic neuritis and atrophy and retinitis and choroiditis must have causes underlying them. Hysteria, neurasthenia, syphilis and the cases left in the categories of migraine, asthenopia and idiopathic optic neuritis, and idiopathic atrophy become smaller as our knowledge of deeper facts become known to us.

Recurrent headache when at all severe (or even slight) in the course of time becomes a matter of serious moment for the individual; and with the higher grades, is the cause of so much disaster both in his affairs and the general welfare of the family, that from the earliest times to the present hour it has had the serious efforts of some of the best minds bestowed upon the solution of its causes and treatment.

Headache of any grade is a symptom in many diseases that are at once, or easily recognizable. Self limiting by either recovery or death in a period of time that represents proportionately a short span in life of the individual. But headache is also a symptom of another class of morbid conditions which present no signs, of which the headache may be the only symptom; and which are not self limiting by recovery or death but persist throughout the life of the individual from childhood to age.

Frontal Headaches. A low grade unending headache is established by closure of frontal sinus, without more symptoms and made worse by use of the eyes. The air is partly absorbed in the sinus and the negative pressure makes the wall sensitive (P. McBride, 1891). The floor of the sinus is its thinnest wall and has attached to it the pulley of the superior oblique. The closure of the sinus is not an accident of anatomy. The mechanism by which closure is produced is a combination of unfavorable anatomical settings such as narrow noses, plus hyperplastic changes in the soft parts and the bone (Dr. Wright).

Dr. Weber of Philadelphia described the mechanism of ocular headaches to wit: "The ciliary muscle in its effort to secure for its possessor the best possible vision under unfavorable circumstances or conditions, provokes an irregular discharge of nerve energy along the oculo-motor nerve to its nucleus upon which it depends for its proper government. This irritates the neighboring fifth nerve nucleus with its termination on the forehead. With this ache there comes a deep dull pain proceeding from the centers themselves and from the cortex through the sympathetic to the dura mater. Soon the whole front of the head aches and a typical eye strain picture is produced."

Dr. J. A. Kearney, *N. Y. Medical Journal*, November 16th, 1921.

In the study of headache the site, the character of the pain or distress, the time of day of its occurence and greatest severity, the character and amount of

employment of the eyes, and the state of the general health are the important determinations for the Ophthalmologist at a time when a patient is much reduced in health, or is convalescent from a long standing or febrile disease or major surgical operation, asthenopia (Eyestrain) symptoms of other remote distresses, the result of errors of refraction, are apt to become manifest. In good general health the effort necessary to overcome an existing error of refraction or extrinsic muscular imbalance may give no reflex headaches nor other distress, but when the eye musculature consisting of the ciliary muscles of accomodation and extrinsic muscles, weakened through constitutional disturbances that tend to lower vitality, the same use of the eyes, which when in health produce no untoward symptoms, at this time is attended by the reflex headaches that are characteristic of eye strain. Examination at this time under a mydriatic is advisable, and when there is found an error of refraction or extrinsic muscular imbalance, relief is usually experienced when they are corrected. However, if he has been wearing glasses, the original symptoms may recur which his lenses were prescribed to correct. An examination under a mydriatic and glasses containing the present correction will nearly always clear up the complaints when they are found to be due to errors of refraction.

Because the patient is wearing glasses is no evidence that the correction is what it should be at the time he seeks relief. By questioning, one will frequently find that the glasses he is now wearing were ordered without a mydriatic and sometimes he is wearing a correction although it has now been changed by time or by lowered state of health. Given a patient suffering from headache, that has every semblance of eyestrain with no external evidence of inflammation and upon examination and tests has no refractive error present, in a number of cases by turning the lids and carefully scrutinizing the conjunctiva, it may disclose changes from that of luster to decided disease. In this type of cases the complaint most generally heard in addition to headaches, is drowsiness that comes many that have applied for relief of in the afternoon as a matter of fact headaches had thought they required glasses, but on close examination determined the cause to be conjunctival disease. In this vicinity conjunctival affection producing headache is quite prevalent. The symptoms disappear as a rule as soon as the conjunctiva has responded to a course of treatment. Headaches due to glaucoma, iritis, keratitis, conjunctivitis and other diseases that attack the eye structures and adnexa are readily recognized as presumably positive by the affection when found.

A careful ophthalmoscopic examination of the fundi of the eyes is imperative in every patient who complains of headaches that are persistent and uncontrollable By such examination many of the brain tumor cases admitted to our hospitals disclosing choked discs are disproved as such for the first time. An ophthalmoscopic survey of the fundi of the eye often discloses changes in the structure that suggest anemias, arteriosclerosis, toxemia and other dyscrasias which might be held accountable for headaches.

Patient consults us for relief, and if we cannot find any trouble either in error of refraction, or eye growths, or anything appertaining to the eye field we should not hesitate but immediately call in one or more of our colleagues so we can by the process of elimination, find the cause, for according to the law of cause and effect if we can remove the cause we can relieve the effect produced by said cause and the finale will be amelioration or cure, for when we analyse the case it comes to us for relief and hence produce the cure.

Dr. Brelmer, *Southwestern Medicine*, March 1922.

Headaches are associated with other symptoms which make the diagnosis and which call for attention at the hands of the ophthalmologist. What type then can the oculist relieve? Briefly stated, —and this is to the general practioner —whenever you have tried and failed to cure any form of migraine send that patient to an oculist. In all probability whenever you meet that patient again he will be wearing glasses and will tell you he is free from headaches at last.

Do not be afraid to refer him, you wil' not lose the case and you will make a friend. Often a patient after being refracted will come back and report a cure and incidentally boast that his family Doctor made a fine diagnosis, when he sent him to have his eyes examined. It far too frequently happens however, that the family Doctor either because he fears to lose the case or through ignorance of the real situation tries this remedy and that always hoping to hit on the right one and finally loses the patient who goes to another Doctor who in turn sends him to have his eyes looked over. The patient being relieved, thinks highly of the diagnostic ability of the second physician and tells his friends how much he has paid out to the first Doctor for finding out nothing. This first type of Doctor, fortunately is on the decline. The up to date Doctor makes use of all the means in his power to find out the cause and the oculist is not the least of his aids. The largest clinics in the country and probably in the world thrive just because of this coordination of departments.

W. H. Wilde, *Illinois Medical Journal*, August, 1921, p. 104.

How can eyestrain bring about the symptoms of headache?

Why is it that one person will suffer from headache from eyestrain and another straining his eyes much more, as the examination shows, will have no trace of such symptoms? What is headache? Why is headache? What changes take place in the nervous structure when headache develops?

One of the hypotheses advanced for the explanation of migraine may be applicable also to headache of ocular origin. A vaso-motor spasm occasioned reflexly, followed by vaso-motor dilatition may lead to hyperemia of the cerebral circulation and irritation of the nervous tissue. Some toxic influence operating through the circulation or a reflex acting through the sympathetic and sensory nerves may irritate the brain cortex. Spitzner advances the hypothesis for migraine that there is a relative stenosis of the foramen of Monro (an opening back of the anterior pillars of the fornix, forming a passage between the third and the lateral ventricle of the brain.

An acute or passive hyperemia of the brain, however, caused would then result in hyperemia of the choroid plexus with an increased pressure in both ventricles. Recently Dunn (*Arch. of Ophth.* March 1918) has advanced the theory that headaches inclusive of those due to injury and to tumors are the manifestation of increased intracranial tension. This is controlled by the secereetion from the posterior lobe of the hypophysis which promotes the permeability of the brain fluids. He maintains that the disturbances of the pressure exerted on the ganglion cells of the retina because of the over exertion of the ciliary muscle (with consequent increase of intraocular fluid) causes reflexly a disturbance of the secreting activities of the posterior lobe of the hypophysis. If this continues long enough, reflex temporary exhaustion of the posterior lobe activities sets in and with it higher than normal intracranial, with a clinical symptom, headache.

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THE CHARITY HOSPITAL OF LOUISIANA.

By. ALBERT E. FOSSIER, A. M., M. D.

(Continued from last issue.)

This, the first Legislative Act referring to the Charity Hospital, passed in the first Legislative Assembly of the Territory of Louisiana and approved by the Governor, March 8th, 1808, is of historical interest not only because it was the initial step taken by the Territory of Louisiana to control that Institution, but also because it gives an interesting aspect of the condition and management of the Hospital at that time.*

"Whereas since the change of government in this territory, the administration of the Hospital of Charity established in New Orleans, has fallen into the hands of persons who have no right to it, and the superintendence of the said administration which be-

*The author is not responsible for phraseology of quotations, as they are taken verbatim from text.

longed formerly to the Governor of Louisiana and to the Bishop of the Diocese, was not continued by the subsequent constituted authorities, owing to the want of positive information, touching the nature of that Institution, and the rights resulting from its charter in their favor.

Considering that the abandonment to which that establishment is reduced is in direct opposition with the intention of the founder, (Almonester), who has given it property to a considerable amount, the revenue whereof, if well employed, would be more than sufficient for the relief of the indigent sick, while it is notorious that the said Hospital is now a place of wretchedness, where the sick languish in a total want of the necessities of life, notwithstanding the pecuniary retribution which is required of the most part of those who are admitted there.

"1. Be it declared, etc. That the constituted authorities which have succeeded to the governor of Louisiana, and to the bishop of the diocese, in the superintendence of the hospital of Charity of New Orleans, and the governor of the territory of Orleans and the persons exercising the functions of Chief of the Catholic Church in the said territory: that consequently, it shall be the duty of the said authorities to cause an account to be given to them of the administration of the hospital of Charity of New Orleans, since the taking possession of Louisiana by the United States, by all persons who have intermeddled with the said administration, and to collect all sums of money and balance due by such persons.

"3. And Be it Further enacted and declared, That during the minority of the heir of the founder and patron of the said hospital of Charity, and until her majority or her marriage, the Senior Colonel of the Militia of New Orleans is the person who, agreeably to the spirit of the Charter of the said hospital, ought to exercise protempore the functions of patron of that hospital.

Thomas Urquart,
Speaker of the House of Representatives
J. Poydras,
Pres. of the Legislative Council.
William C. C. Claiborne,
Governor of the territory of Louisiana.

It is doubtful whether the provisions of this act were ever enforced; a few months after promulgation the Saint Carlos Hospital was burnt to the ground. This act, however, was premonitory to the fact that existing conditions in the direction of the Hospital could not endure and that the administration of same would perforce soon become invested in the Territorial Government. Succeeding this incident by a few years, Micaela Almonester's daughter became the Marquise of Pontalba, and March 9th, 1811, made a relinquishment of all her rights and privileges of patroness to the City Corporation of New Orleans. But a subsequent enactment of the Legislature following three years after passage of the Original Act, can be considered the Charter of the Charity Hospital from the State of Louisiana. Quoting from the same act, we have:—

"Be it enacted, etc., That the administration of the Charity Hospital of New Orleans shall be trusted to a Council of Administration composed of the nine members who shall be appointed in the manner hereafter provided for, and shall be vested with the full power to direct, administer and manage the said Hospital and the property of the same of what nature soever present and future, in the manner and form most advantageous to the public."

Section 2.—And be it further enacted, That it shall be the duty of the Governor of The Territory and of the City Council of New Orleans, each according to the powers conferred upon them respectively by this Act, to appoint immediately after its passing, the Governor shall appoint six citizen freeholders and heads of a family, and the City Council shall appoint three of its members, and those nine persons so appointed shall compose the Council of Administration of the Charity Hospital, and under this title they shall have power and it shall be their duty to manage the property of the same in the manner hereafter prescribed.

Section 5, and be it further enacted,—That immediately after the appointment of the nine managers of said Hospital, it shall be their duty, and they are empowered by this Act to claim from the Mayor and the City Council of New Orleans, the delivery of the real and personal property, monies, papers, effects and documents belonging to said Hospital, by virtue of the Act to which this is a supplement, there shall be drawn a process verbal of said delivery at the foot of the inventory, which shall be signed by the respective parties to be afterwards deposited with the Archives of the Hospital.

A second time the destruction of the Hospital resulted in intense suffering and hardship to the indigent sick. The rescued patients were quartered by Mayor James Mather for but a day in the upper gallery of the Cabildo, the then City Hall. Then temporary quarters were provided on the Jourdan Plantation, on the site of the present Industrial Canal. This location was abandoned after six months of suffering and discomfort to the patients.

Castellanos tells us that—"Meanwhile, patients formerly housed in the Jourdan's Plantation, and hence transferred to the La Vergne residence, were almost reduced to starvation, so much

so, that on one occasion the Hospital's employees, poor though they were, had been compelled to contribute from their own scanty means for the weekly sustenance of the neglected patients. They were made to sleep upon the bare ground, the wooden floors being decayed and no longer offering protection. The nursing of the sick was so indifferently ministered that, using Mather's own expressions in one of his messages, "No one, however wretched and poor, will now consent to be committed to that Hospital." Let it also be borne in mind that during these years of hardship and destitution, to the unfortunate inmates of the Hospital, epidemics of the Yellow Fever swept over the City, carrying havoc and panic in their dismal path. Never in the Annals of the City's history had the demands for a well organized Hospital grown more urgent."

For five years not a suitable place for the care of the sick, was available, nor was it until the year 1814 that the square bounded by Canal, Common, Phillipa (now Dryades) and Baronne was sold by the city to the Administrators of the Charity Hospital for the construction of a building.

The new hospital was ordered constructed by the Legislature in a bill promulgated April 25th, 1811.

The Board was composed of three members of the City Council of this City and of six others to be appointed by the Governor. This Council of Administrators was empowered by this Act to claim from the Mayor and City Council the delivery of real and personal property, effects and documents belonging to said Hospital, yet they were in no case authorized to sell, alienate the property or any part of said property without an express authorization of the Legislature. The Act also ordered that the funds proceeding from the sale made by the Mayor and the City Council of the portion of the property of the Charity Hospital, composing the ground floor of the part of the house once occupied by Mrs. Castillon, widow of Almonester, which was redeemed by her, shall, without delay, be employed by the said Council of Administration in building a new hospital.

The governor's appointees were Messrs. Felix Arnaud, Dow, Joseph Montegut, Butler, Bellechasse and M. Fortier, and on November 6th, of the year 1811, Messrs. Robelot, Castenado and S. Henderson, members of the City Council, were elected administrators of the Charity Hospital in compliance with the law.

These gentlemen constituted the first Board of Administrators of the Charity Hospital.

The corner stone of the building was laid in 1815. Doctor McConnell was then the House Surgeon. In the year 1823 he was succeeded by Doctor John Rollins.

The following description of the Hospital in 1823 is taken from the City Directory of that year:—"The Charity Hospital, situated No. 147 Canal Street, consists of two large buildings, containing one surgical hall, two large fever wards, one dysentery ward, one ward for chronic cases, one for females, one for convalescents, one bathing room, one apothecary store, and a number of other apartments for the families of the residents, officers, etc. The Hospital has lately undergone a complete repair and reform, and is at this time as clean, wholesome and well conducted as any institution of the kind in the Union. During the last year, about 1,700 sick persons were admitted, 1,200 of whom were discharged well, and the remainder died, one-half of which, of Yellow Fever. The lot on which these buildings stand embraces the whole square between Canal, Common, Baronne and Philippa (now University Place) Sts., and is laid off in a garden, poultry yard, etc. The whole appearance of this humane establishment, at present indicates that the physicians and officers are very attentive to their duty. Any person who doubts the correctness of the above remarks need only visit the Hospital to be convinced. Dr. John Rollins is the House Surgeon and Apothecary at this time, who is assisted by physicians of the City, who visit in turn. Sick persons who wish admission must apply to the Mayor of the City or any one of the Administrators. The Hospital is likewise an asylum for lost children who will be taken the best care of until reclaimed.

About 1,300 males and females were admitted during the year 1821, and as

many as 130 persons received attention at one time."

From the above it may be seen the rapid strides made by the Hospital. In a few years it had grown from a 24 to a 120 bed hospital. This institution in equipment and management was second to no other in the country. There were bathing facilities, an apothecary, and fever patients were segregated from surgical cases.

That year the City Treasury munificently contributed $336.00 to the support of the Hospital. An Act passed in the second Section of the Fourth Legislature in the year 1820, provided for the care of the insane in the following clause: "It shall be the duty of the Administrators to cause a separate building to be erected as an appertenance of said establishment in order to receive and attend such persons as may have fallen into a state of insanity."

Dr. McConnell was the first House Surgeon and in the year 1823 he was succeeded by Dr. John Rollins. In 1831 Dr. William Picton was elected to that position. Dr. David C. Ker, a British Army Surgeon, and a veteran of the Battle of New Orleans, after a crushing defeat of General Packenham, true to the noblest tradition of his profession, permitted himself to be captured that he might administer to his wounded soldiers. This gallantry gained for him the admiration and respect of his former enemies. He made this City his home and in the year 1827 was appointed visiting physician to the Charity Hospital.

The history of the Charity Hospital, were it to be confined only to the bare facts concerning that Institution, would be shorn of much that is interesting. The most intimate relation of physicians of this City to the Hospital since its earliest days, the scope of their work, their destinies, their failures and their successes, demand consideration along with it. A study of the times, frequent reference to the growth of New Orleans, the distress and hardships borne by our forefathers and their laudable achievements, must be alluded to and extolled, for the more important part of this naturally involves the establishment, progress and evolution of the Charity Hospital as it now exists.

In the early eighteen twenties there were two separate and distinct medical organizations extant: the Medical Society and the Physico-Medico Society. The curious reason for the existence of two societies for comparatively so few doctors is explained by a survey of the membership list of these bodies which reveals that in the Medical Society the names are either French or Spanish, whilst in the Physico-Medico Society, Anglo Saxon names predominate. This divorcing of the medical profession into two separate and distinct organizations was made necessary by the fact that many physicians were foreign born and that the prevailing tongue was French, even during the Spanish domination and the publishing of medical journals in the French Language persisted to a much later date. Even the early Legislative transactions of the Territory of Louisiana and also of the State of Louisiana were recorded in the same archives, both in French and English. The rivalry existing between the members of these two medical associations must have been acute, for it appears that on every board of a medical character the appointees were divided nearly equally between the membership of those rival societies.

Of interest to the physicians of this City is the following Act of Legislature, approved by the governor, February 24th, 1819:—

Sec. I. "Be it enacted, etc., That the Medical Society of New Orleans, is hereby authorized to raise by Lottery a sum not exceeding fifteen thousand dollars, for the purpose of purchasing a library, philosophical apparatus, etc., and defraying other incidental expenses of the institution. The said Lottery to be set on foot as soon as the said Medical Society shall find it convenient after the passing of this Act, and that the said Medical Society shall appoint five discreet persons to be Managers of said Lottery, each of whom shall give security to be approved of by the said Medical Society, in such sum as they shall direct, conditioned for the faithful discharge of the duties required of such schemes as to them may seem proper, to sell the tickets and to superintend the drawing of the said lottery, and the payment of the prizes—And it shall be the duty of the said managers to pay into the hands of the Treasurer of the said Medical Society, the proceed of the said lottery, in order to be laid out according to the purpose of this Act.

Sec. 2.—And be it further enacted, That the Managers of the aforesaid lottery shall have power to divide the same into three

classes, provided, however, all of said classes shall be drawn in four years after the passing of the Act."

Whether the Medical Society took advantage of these prerogatives cannot be determined today. There are no remnants of that Medical Society's library that could enlighten us on this question. This singular act of the Legislature may occasion surprise today, but up to nearly the year 1840, the same procedure of lottery was employed in the raising of moneys for the founding of schools, public buildings, churches, the construction of bridges, good roads, in fact for any public or charitable purposes, and even a few individuals were granted the privilege of the lottery to dispose of their realty holdings.

The great prevalence of dysentery which wrought such distress and death among these pioneers of our City is explained by the inadequacy and the corruption of the water supply. For washing and bathing purposes wells were dug to a depth of from ten to fifteen feet. Drinking water and that used for cooking was taken from the river, carried through the City for sale, in hogsheads on carts, and sold at the rate of four buckets for 6 1-4 cents or 50 cents per hogshead. The water for drinking was either filtered through a porous stone, or kept in a large earthernware jar, the sediment allowed to settle, or alum used to hasten the process of sedimentation. This water was considered wholesome. It is interesting reading that the first water work system was started in 1813, but was not completed until several years later. The water mains were hollow cypress logs. In a contemporary directory is found the following interesting comments on the insanitary condition of that water supply:—"It is thought by most persons that the water ought to be introduced from the river into the City from above the eddy and point, as it is certainly more pure than that opposite the City, where it becomes impregnated with all kinds of filth, the very thought of which is sufficient to turn the stomach of a person of delicate constitution." The drainage of the City is recorded by Paxton in his directory of 1822 thus:—"The site on which New Orleans stands is a plain with a descent of about 7 1-2 feet from the river, terminating in a swamp in the rear of the buildings, to which all water from the gutters of the City finds its way."

The first hundred years of the History of New Orleans is a recital of all the hardships that humanity can possibly endure and a narrative of the highest examplification of fortitude, tenacity and grim determination which can scarcely be appreciated in this time and it is really in fact an epic of the noblest type of manhood. In no other location nor at any other time has the maxim of the survival of the fittest been better exemplified than in the case of these founders of our City and of our State. Their sufferings were acute due to want, privation and exposure. New Orleans was built on and surrounded by a swamp, infested with insects, with only inadequate protection from these pests. Pestilences were rampant, their records write a dark page in the history of human suffering. The great prevalence of preventable diseases was due to the unsanitary conditions,—none but the stoutest hearts could resist these continual calamities and persist in their determination to build up their City. Yet in spite of sickness and pestilence, with their extreme death rate, these pioneers never faltered, but with abounding faith in the future greatness of New Orleans, labored, suffered and died to accomplish their purpose. Despite all, the growth of New Orleans preceding the Louisiana purchase was phenomenal. In 1788 the city had 1,100 houses and the census of 1821 gave a total of 8,705 houses. The total population of that year was 29,000 inhabitants, of which 13,642 were negroes, either free or slaves. An interesting feature of that census is that with the whites there were nearly twice the amount of males compared to the females, and with the negroes the reverse held true. A contemporary directory records the following: "The population is fast increasing by accession from all the States in the Union, and from almost every Kingdom in Europe."

The monetary status of the hospital was then as it has been to the present day one of inadequate finances. As there was no specific appropriation from the State, its revenues were derived from the levying of special taxes

on amusements, gambling, and the fines and penalties assessed in criminal cases, also from forfeited bonds, and a passenger tax of $1.00 on foreign cabin passengers, $2.00 on steerage passengers, and, on United States passengers beyond Louisiana, fifty cents. James Burns in his "Historical Sketch of the Charity Hospital of New Orleans" wrote: "The managers (of theatres) at one time were required to give periodical 'benefit performances' for the hospital, but not only did these never benefit the Hospital, but on at least one occasion the manager brought the Hospital into debt for his benefit" There was even resistance to the passenger tax, for in one year eighty-three boats defiantly refused to pay it, and one hundred and seventy-three landed their passengers in Lafayette to evade its just impost This was changed in 1838, each theatre was taxed $500.00, each circus $150.00, each menagerie $50.00, each show $25.00, as Hospital assessment. These taxes together with an occasional donation provided for its maintenance. This institution because of the lack of any asylum in the city served the dual purpose of Hospital and place of refuge for paupers and lost children.

In 1832 the cost of maintenance is given as $31,295.00.

There were many legislative acts providing ways and means for procuring sufficient moneys for its upkeep. The revenues derived from certain taxes were applied to that purpose, the most bizarre of which is an act of the Legislature of the State of Louisiana promulgated one hundred years ago which is of interest not only because it provided funds for the Hospital, but also because it expressed the sentiments of the time concerning gambling:

"Whereas the object contemplated by the act entitled "An act to prevent gambling" has not been attained, the only effect thereof, in form of good morals being indeed nugatory, inasmuch as the vice which the said act intended to eradicate has been practiced not less than formerly, but with a greater degree of caution and clandestinity, from whence has resulted, first, that excesses and disorders, if any, have taken place, could not be repressed, the eye of the municipal police being almost unable to get access in the places wherein they were committed, and secondly, that the Charity Hospital whose resources, from motives of humanity and sound policy, ought rather to be increased than diminished, has been deprived of the greater part of the revenue it already had, and which was indispensably necessary to its existence; and whereas in order to provide for the expenses of the said institution, the administration thereof has been obliged to dispose of a part of its capital, and that unless remedies as prompt, as efficacious be adopted, the unavoidable ruin of the said institution will soon take place:

Section 3. Be it further enacted; that the number of gaming houses to which license be granted shall not exceed six for the city of New Orleans and its suburbs incorporated, and that the keepers of houses wherein gaming shall take place in virtue of the licenses granted in compliance with the present act, shall be obliged to keep their gaming table in rooms or halls not exposed to the view of the public, etc,"

A tax of $5,000.00 was levied on each gaming house, three-quarters of this fund to revert to the Charity Hospital and the other quarter to be applied to the benefit of the College of Orleans. This act went into effect March 27, 1823, and was amended on April 2, 1832, increasing the number of gaming houses and raising the tax to $7,500.00. This amount was to be apportioned as follows: three-quarters to the Charity Hospital and the other quarter to be equally divided between the New Orleans primary schools and the College of Louisiana. The Legislature authorizing the selling of the Hospital building on Canal street in an act approved by Acting Governor Jacques Dupres, March 15th, 1830, Section 2, reads as follows: 'That said administrators are hereby authorized, if they deem it expedient to sell the buildings and the lots on which said Hospital is situated, and on such terms as they may deem most advantageous to the said institution; provided, however, that the possession of the Charity Hospital shall not be delivered until another suitable building be provided for the reception of the sick and afflicted, and that the proceeds of the sale of the present house and lots be appropriated for procuring the necessary comforts to sick persons; and that

the residue, if any, be applied by the administrators for the best advantage of the same."

The great increase in population rendered a larger and more commodious institution necessary, and the Canal street site and buildings were sold to the State for $125,000.00. The main building was used and afterwards known as the State House and later became University Block or Place. The Common street side of the square, on which is now situated the stores and the theatres was the site of the Medical College previous to the building of the Richardson Memorial, now the Hutchinson, on Canal and Villere streets.

In New Orleans, in the eighteen twenties, in addition to the Charity Hospital, there existed the Marine and Naval Hospital, and a private institution named the Orleans Infirmary situated at the corner of Circus and Poydras streets and under the supervision of Dr. J. S. McFarlane.

The following taken from the report of the Board of Administrators of the Charity Hospital of the year 1832 is illuminating of that momentous epoch in the life of that institution:

To the Honorable the Senate and House of Representatives of the State of Louisiana:

The committee to whom was assigned the duty of visiting and examining into the condition of the Charity Hospital of the City of New Orleans, have given to the subject that care and attention, which the benevolent object of the Institution demands, and beg leave to report, that, having examined that humane establishment in all its departments, with a scrutiny commensurate with its importance, take great pleasure in awarding to the gentlemen, to whose care the administration of it has been committed the approbation and praise, which is due to faithful public servants, and philanthropic individuals. Their untiring zeal in dispensing health and comfort to the wretched beings, whom misfortune has driven to ask alms at the hand of the public munificence, can only be requited by the gratitude of the recipients of their attentions and the confidence of their fellow citizens. The building is a proud illustration of Louisiana liberality. The model of it and the style of its construction do equal honor to the head of the architect and the hand of the mechanic. The internal police and regulations bear strong testimony of the ability and labor that have organized them, and if observed and enforced with the same unyielding firmness, that seems, at present, to characterize the officers, cannot fail to meet the fondest hopes of the friends of the institution. Your committee need only state the number of patients received the last year from almost every State and nation, and kingdom on earth, to exhibit in strong colors the wide-extended usefulness of this unfading monument of individual liberality and public benefaction. During the year 1832, 2,480 unfortunate fellow beings have shared this open-handed beneficence, of whom 1,545 have been restored to health, to friends and to society. Five hundred and sixty-nine have died, a number which when we reflect on the wasting pestilence which has visited our city, in a character, from which it would seem as if we had been marked out as the peculiar object of its relentless violence, certainly does no dishonor to the skill of the gentlemen who have charge of the medical department. There were on the 1st day of January past 167 under treatment producing an average number for the entire year of 180. We have much cause to congratulate ourselves that only 40 of the whole number were citizens of Louisiana. Here, your committee cannot forbear to express their surprise, that the peculiar situation of this institution and the unlimited dispensation of its charities have not attracted the attention and enlisted the interest and generosity of other States. The liberality of Pennsylvania, which, we are always happy to acknowledge, furnishes a proud example which, it is devoutly to be wished, might be imitated by others. We doubt not that the generous spirits of that philanthropic State reap a rich reward from the reflection, that during the last year, her liberality contributed to the relief and comfort of 111 of their unfortunate fellow-citizens, whom circumstances had removed far from their homes and their friends.

Your committee approach the financial concern of this noble and humane establishment with many misgivings. They deeply deplore that an institution so laudable in its object, so extensive in its benefits, and presenting so wide a field for the exercise of the highest and purest feelings of our nature, should depend for support on means extremely capricious in their duration, and which cannot be advocated on principles of religion or of morals. The doctrine that the end may sanctify the means, is scarcely plausible in theory, and certainly is most dangerous in practice. The whole amount of moneys received by the institution during the year 1832 was two hundred and thirty-nine thousand, eight hundred and ninety-two dollars and twenty-five cents ($239,892.25): of this amount one hundred and ninety thousand, one hundred and nineteen dollars and twenty cents have been realized from the sale of property of various descriptions ($190,119.20) the sums of sixteen thousand one hundred and sixty-nine dollars and seventy-eight cents ($16,169.78) embracing one legacy of five hundred dollars ($500) and fifty dollars ($50) collected by the marshall has accrued from premiums on State bonds, interest on State bonds and moneys invested; leaving a balance of thirty-three thousand, six hundred and three dollars and twenty-seven cents ($33,603.27), which has been derived from what is called the ordi-

nary sources of revenue. Of this ordinary revenue, thirty-one thousand and forty-one dollars and sixty-six cents ($31,041.66) have been received in shape of taxes on gaming licenses. Hence it appears how small a portion of necessary expenditures of this institution is derived from any substantial and permanent sources of revenue. The disbursements during the same year, including fourteen thousand, five hundred and fifty dollars and forty-five cents ($14,550.45) due individuals on account of the preceding year, and also nine thousand dollars ($9,000.00) due the Louisiana State Bank for money loaned, amounted to one hundred and forty-eight thousand, two hundred and fifty-nine dollars and sixty-eight cents ($148,259.68), of which sum thirty-one thousand, four hundred and seven dollars and seventy cents ($31,407.70) were appropriated to the ordinary current expenses of the establishment. Eighty-six thousand, eight hundred and eighty-five dollars and sixty-two cents ($86,885.62) were expended on the new edifice; six hundred and ninety dollars and eighty three cents ($690.83) were paid for commissions and tax on sale of real estate; two thousand and six hundred dollars ($2,600.00) were paid for four slaves, for the use of the Hospital, and three thousand, one hundred and twenty-five dollars ($3,125.00) interest on State bonds, leaving a balance in favor of the institution of ninety-one thousand, six hundred and thirty-two dollars and sixty-five cents ($91,632.65); from this sum we may deduct fifteen thousand dollars ($15,000) for the completion of the building, which is now rapidly progressing, and we have seventy-six thousand, six hundred and thirty-two dollars and sixty-five cents, the entire productive capital of the institution. From this sum, we may, with some degree of certainty, anticipate a revenue of seven thousand, six hundred dollars. The amount annually required to suport the establishment considerably exceeds thirty thousand dollars, and for upwards of twenty thousand of which we are obliged to rely on the frail and unsubstantial resource of gaming licenses. Your committee much regret that the law requiring all persons opening public theatres in the City of New Orleans to give four representations per annum at the will of the Council of Administration, has not been carried into effect, and that the law imposing a tax of ten dollars on each and every public ball has not been rigidly enforced. Your committee believe that by a watchful observance of these laws, the present revenue of the institution might be increased several thousand dollars.

Your committee have regarded, with deep interest, the unsubstantial and insufficient resources of this asylum of human wretchedness, and, with diffidence, submit a few suggestions upon the proposed means of rendering them more sure and permanent. The edifice, when completed, will have cost a little less than one hundred and forty thousand dollars. It is sufficiently spacious to accommodate, with no stinted convenience, nearly four hundred patients, allowing the most liberal provision for officers and attendants. The apartments are large, neat, well ventilated, and admirably well adapted to the peculiar object for which they were designed. It is hoped, for the sake of humanity, that the time is not near when diseased indigence will occupy all this vast structure. And it is believed that the superior comforts and advantages, which the peculiar structure of the building, the discipline and habits of the servants, and the constant medical attention, hold out to invalid strangers, cannot fail to draw to it very many who would gladly make a liberal compensation for such accommodations. Your committee, therefore, recommend that the Council of Administration be authorized to furnish in a suitable manner one or more wards as they may deem expedient, for the special accommodation of such persons. Judging from the success of the plan, in other similar institutions in our country, we shall fondly anticipate from its adoption, a sound and important source of revenue. Your committee recommend as an additional source, the enactment of a law imposing a small tax upon all foreigners arriving in the port of New Orleans. The justice of this requisition will appear most palpable when we reflect that, of the number of patients received into the hospital during the last year, 1709 were subjects of foreign governments. And your committee beg leave farther to report by bill.

B. G. TENNEY,
Chairman of the committee on the part of the Senate.

J. WATKINS,
Chairman of the committee on the part of the House.

(To be continued.)

THE TREATMENT OF DIABETES MELITUS WITH INSULIN (ILETIN).*

By I. I. LEMANN, M. D.

Introduction: "Insulin is here." This is the fittingly dramatic manner in which Joslin, in his new article in *Oxford Medicine,* announces the discovery of the long sought for pancreatic hormone. From the days of Claude Bernard, more than half a century ago, the hunt has been continuous and the scent strong. Minkowski and von Mering, in the late eighties of the last century, produced the phenomena of diabetes in dogs by removing the pancreas. In the early years of this century Opie and others were able to correlate the diabetes with damage to the islands of Langerhans. Ten years ago, Allen, confirming earlier works, showed that atrophy of the pancreas was brought about by ligation of the ducts, but that the remnants containing only island of

*Read Before the Meeting of the Orleans Parish Medical Society, April 9th, 1923.

Langerhans prevented the appearance of diabetes, for the latter developed only after these remnants were removed. In spite of all of this, attempts to isolate the internal secretion of these islands of Langerhans had always failed, though a number of investigators have seemed at times to be on the verge of its discovery. Scott, for example, had performed successful experiments, which, if persisted in a little further, we know now would have yielded successful results. It was thought (and we know it was true) that the digestive enzymes of pancreas destroyed the internal secretion when all attempts at its extraction from the pancreas were made. In 1921, Banting, working in Professor McLeod's laboratory in the University of Toronto, proposed to his chief to try to secure an extract from the remnants of pancreatic tissue left in dogs after ligation of the ducts. He argued that the atrophy of the pancreas would ensure the absence of digestive enzymes and that this extract of the remnants would represent entirely an extract of the islet tissue and should, therefore, contain the hormone. Banting and Best were promptly able to prove this thesis and to obtain in this way the hormone which has been named Insulin. Later, they isolated it from the pancreas of the calf fetus, for it was known that the fetal pancreas contained no digestive enzymes. Experiments with the new hormone showed that it was not affected by alcohol and advantage has been taken of this fact and the fact that the digestive enzymes are destroyed by 50 per cent alcohol, to obtain the new hormone from adult animal pancreas, that is to say, slaughter-house material.

Dr. Eustis, who will follow me, will describe and demonstrate to you some of the physiological action of this new hormone. I shall say here merely that experiments first upon normal animals, upon diabetic dogs, then upon patients have shown that it reduces the blood sugar of the normal as well as of the diabetic. In the latter, it will control the phenomena of diabetes as long as it is used. It is not a cure, but supplies artificially, temporarily and fleetingly the lacking pancreatic hormone. It does not do away with the necessity of dieting.

Why, then is it wonderful? Because:

(a) It restores to normal the severe and starving diabetics and causes them to gain in weight and brings back their vigor and energy.

(b) It rescues the toxic cases from coma and restores them to normal.

(c) It tides even the mild diabetic over emergencies, medical or surgical, e, g., typhoid or other infectious disease, and surgical operations related or unrelated to the diabetes.

(d) It adds vigor to the mild diabetic and makes of him practically a normal man.

I shall now relate to you my experience in 14 cases which lead me to make these statements. Before I begin, certain acknowledgements are due. In the first place I am under great obligation to the firm of Eli Lilly and Company, with whose preparation of Insulin (called by their trade name, Iletin), all of these patients have been treated. For a period of nearly two months Dr. Eustis and I were furnished the material for the observations free of all charge. During this time and a little longer some 50 to 60 other clinicians in other parts of the country were similarly furnished. The discoverers of Insulin have patented it and turned the patents over to the University of Toronto and the University has licensed Lilly and Company, of this country, and the National Research Council in Great Britain to manufacture it. In Canada, the University of Toronto will produce it. It is not the aim of the University to make more than enough to maintain a testing laboratory. Any surplus will be devoted to further research in the same field. Acknowledgements are next due to Dr. Eustis and Dr. Giles, to Professors Garrey and Denis, to Dr. M. P. H. Bowden for her untiring work in the laboratory without which none of these reports could have been made, to the authorities and resident staff of Touro Infirmary, especially to Dr. John D. Spelman, Superintendent, and to Drs. Liles, Ray and Grant of the Interne staff, and last, but not least, to the nurses of that institution.

Restoration of Severe and Starving Diabetics.

Case 1., I. R., female, aged 22: Symptoms of diabetes developed in August, 1921. When she first came under my observation, in

March, 1922, she weighed 120 pounds, having lost seven or eight pounds. At that time her tolerance was about 30 grams carbohydrates, protein 60 grams and fats 75 grams. During the next two months she sank so that a diet of C 16, P 18, F 50 caused her to show sugar. She constantly lost weight and strength and from August, 1922, to the end of the year she was in bed. During August she had diet not exceeding 500 calories; during September one of about 1,100 calories. By November, when Iletin was begun, she had gone down in weight to 80 pounds. She has now been taking Iletin since November, 1922, has regained her strength and has been able to return to work. She is able to take a diet of C 60, P 70, and F 150, which covers her caloric needs and has permitted her to increase her weight to 99 1-2 pounds.

Case 2., C. B., male, aged 15: Onset of diabetes April, 1921, with loss of five pounds in six weeks. He was relatively easily kept free of sugar for the next three or four months and gained back his weight, but in the following winter he began to have sugar again and lose rapidly and constantly in weight and strength. When he was referred to me in November, 1922, by Dr. J. B. Elliott, he weighed 64 pounds, a loss of 23 pounds in the previous year. At that time he had been taking for sometime a diet of C 15, P 20 and F 30, and on this was showing sugar. He has been taking Iletin constantly since November 22. He weighs 93 1-2 pounds, a gain of practically 30 pounds. He is taking a diet of C 60, P 60, F 140. He reports that he does anything that any other boy does except eat. He appears vigorous and healthy in every way.

Case 3., S. E., female, aged 20. Diabetes discovered about January, 1921. In September and October, 1921, she was easily brought free of sugar and was dismissed with a diet of C 65, P 80, F 110. She remained on this diet approximately a year, maintaining her urine for the most part free of sugar. When she came under observation in October, 1922, her tolerance had sunk to C 40. She has been on Iletin since November 22, and has been able to take a diet again containing C 60-65, P 50, F 130. On this she has gone up in weight again from 112 to 117 pounds and feels perfectly well in every respect. She had not menstruated for several months prior to the use of Iletin and the menses have been re-established now for the past several months.

Rescue of Toxic Cases From Impending Coma.

Case 4., J. N., female, aged 16. Was referred to me by Dr. Frank Chalaron on November 23, 1922. She had consulted him that day on account of pruritus. Her symptoms of diabetes had dated back about a year. When admitted she was barely able to drag herself along. The next day it was apparent that she was on the verge of coma. She had the Kussmaul air hunger, and was restless, confused and apathetic. She was rescued by the use of Iletin and the intravenous injection of bicarbonate of soda, and glucose to provide an abundant buffer against excessive Iletin. Blood sugar became normal on the 11th day and the urine was usually free of sugar. On that day she went into coma again, due to the excessive dosage and was promptly rescued by the intravenous injection of 25 c. c. of 10 per cent glucose solution. Consciousness was restored in the most dramatic fashion by the time the injection was completed. This girl remained under observation for two months, during which time she gained 16 pounds.

Case 10., E. J., female, aged 14. Was referred to me by Dr. Adolph Jacobs. He had been summoned the day before to see the patient in what was supposed to be a mild case of the prevailing grippe. Later, he was told that for a year she had been ailing, losing weight and getting progressively weaker. She had had a tremendous appetite and thirst and was troubled with frequent urination. Dr. Jacobs found in the urine a large amount of sugar and acetone and diacetic acid. The next morning he was summoned hurriedly because she had great difficulty in breathing and apparently a tracheal obstruction. This latter, Dr. Joachim was able to negative at once. The patient was then admitted to my service at the Touro Infirmary, markedly toxic, hyperpneic to an extreme degree, employing all her accessory muscles of respiration. By the intravenous injection of soda carbonate and Iletin, together with glucose solution as a buffer to make sure of a sufficient glycemia, the hyperpnea was relieved at once. Iletin was continued intramuscularly and within a week the patient was able to take an adequate diet without glycosuria. Meanwhile, her weight rose from 76 1-2 to 98 1-2 pounds, due to water retention and edema on account of excessive use of salt. When the latter was restricted, the edema disappeared and the weight fell to 80 pounds. It has since risen to 87 pounds and the girl has been restored to a sense of well being and normality that she has not known for a year. She says that she feels she has been made over.

Case 14., A. C., female, aged 20. Came to this country eight months ago from Greece. Two weeks ago she was brought to consult Dr. S. M. D. Clark because of amenorrhea which had existed ever since her arrival in this country. April 5th, Dr. Clark was consulted again because of a perirectal abscess which he advised should be incised at once. The patient refused both because of fear and because of timidity, and in her reaction and excitement went for a long walk of 90 blocks. The next morning the pain had been so great that she consented to the operation and she was brought to the Touro Infirmary where, under gas and oxygen, the abscess was drained and a dilatation of the cervix and curettage of the uterus was performed immediately after her admission. Specimen of urine obtained from her just before she went to the operating room, was mislaid and lost through the carelessness of a nurse. In the afternoon, the patient was very restless and complained of pain in her chest. Dr. Lines, the interne on Dr. Clark's service, had been with me in the case of J. N., Case 4, and recognized the acetone odor of the breath and the hyperpnea. He obtained the urine and found sugar, acetone and diacetic acid.

Dr. Clark, therefore, asked me to assume charge of the patient. She was somnolent and extremely hyperpneic. The respiration was 44 per minute, the pulse 130. She was given soda bicarbonate intravenously which did not relieve the hyperpnea. In this case we ventured to use Iletin in large doses without the use of glucose as a buffer. In the first seven hours 70 units were given, 50 units intravenously, 20 units intramuscularly. The elimination of the already formed ketone bodies was promoted by forcing water drinking and giving normal saline intravenously and tap water by Murphy drip in the rectum. Treatment was begun about midnight, April 6. The next morning the respirations were 22-24 and quiet. That evening, April 7,the patient was smiling and interested in everything going on. Iletin, 10 units intramuscularly, is still being administered every four hours and she is being given oatmeal and orange juice. We shall expect no more ketone bodies to be formed and those already formed to be eliminated in the next few days. We shall then begin to build up a balanced adequate diet and hope to find, as in the other cases, that what appeared at the beginning to be an extremely severe case, will prove one easily controlled by small doses.

It is interesting to learn that in this case also the symptoms of excessive appetite, excessive thirst, excessive urination had existed for at least eight months and had gone unrecognized as pointing to any serious constitutional disease. It is also interesting to observe that there were in her case the following important contributing factors for the production of coma: (1) Observation of Holy week with meagre diet with large amounts of fats; (2) extraordinary physical exertion; (3) acute septic infection (perirectal abscess), (4) obstipation for 48 hours; (5) anesthesia; (6) morphine

Case 7., Mrs. G. J., aged 39. Was referred to me about March 1, 1923, by Dr. H. Bayon. For many years she has been very stout, her weight being 300 pounds. During January she had felt very tired and listless and was troubled with frequent urination. She feared at the latter, a return of the pyelitis which she had had a year or two before and for dread of the instrumental treatment of the latter she had put off consulting her physician. Finally, when she did consult him about February 1st, sugar was found in the urine in large quantity. There was no evidence of pyelitis. During February frequent attempts were made to bring her sugar free by periods of starvation, oatmeal days and green vegetable days, but without avail. By the end of February the urine was still showing large quantities of sugar and acetone and diacetic acid and the blood was reported as 500 mgs. per 100 c. c. The patient had lost 50 pounds, had developed anorexia, nausea, vomiting and great weakness. In this condition she was admitted to have the Iletin tried. The degree of her acidosis is indicated by the CO^2 combining power of the blood plasma, 24 vol. per cent (normal 60-70) and CO^2 tension of the aveolar air 18 (normal 45). She was given carbohydrates only (oatmeal and orange juice) with large doses of Iletin to insure their combustion and the incidental combustion of the fats. Thus further formation of ketone bodies was avoided. The eliminaton of those already formed was promoted by forcing water drinking and giving tap water by Murphy drip through the rectum. We had the gratifying experience of seeing the acidosis begin at once to diminish and disappeared entirely in eleven days. At the end of that time the acetone bodies had completely disappeared and her alveolar air reading was normal. Her diet has been kept low for several reasons: (1) We have wished to reduce still further her bulk. (2) Even with a diet of C 60, P 60, F 120, a total of 1,560 calories, it has been necessary to give unusually large doses of Iletin to keep the urine free of sugar. The blood sugar now ranges from 180 to 220 mgs. per 100 c. c. The patient has been restored to apparent normality, has no complaint and feels better than she has for months.

Coma Cases Resulting in Death. I have used Insulin in two cases of completely developed coma—both of whom died. One was a woman of 42 years, who had been under treatment with Insulin in New York for several months. Hers was apparently a very severe case. She had improved greatly, but the glycosuria had never been brought under control. She had started on her way to her home in California and on the train developed anorexia, nausea and abdominal pain. Her bowels had not moved for two days prior to her departure and did not move while she was on the train. The pain was so great as the train neared Bay St. Louis that a doctor was called on board at this point and gave her a hypodermic of morphine. After this she went to sleep and was brought to Touro in deep coma. The Insulin had been discontinued during the journey. Strenuous efforts with Iletin brought no results.

The other case was that of a negro in the service of Dr. Lucian Landry at the Charity Hospital. A leg was amputated for diabetic gangrene. Several days later I was called in consultation. The patient was in deep coma. The administration of what I then considered large doses produced no effect. Today I would use larger doses than I did in either of these cases. I am not sure even with larger doses that I should always succeed. Insulin will cause the combustion of the carbohydrates and thus bring about the combustion of the fats and hence prevent the formation of ketone bodies. It cannot undo the dam-

age done to the brain cells by the ketone bodies already formed. The remedying of the latter condition and the elimination of ketone bodies must depend upon other methods.

Assistance in Infectious Disease.

Case 5. Dr. D., male, aged 44. Had been diabetic since his 28th year. At the end of December, 1922, he came down with typhoid fever and was ill about six weeks. Toward the end he developed anorexia, nausea, vomiting and hiccough. In this condition he was admitted to the Touro. Iletin was begun immediately. A nasal tube was passed and food administered both through it and by the mouth and water by Murphy drip into the rectum. The hiccoughing, nausea and vomiting were immediately controlled. By the use of Iletin the diet was at once increased to include more than C 10, P 50, F 150, so that within a couple of weeks the doctor was so much improved that he was able to return home.

Case 9. R. A. B., male, aged 54. Sugar in urine discovered in 1910 at age of 41. I first saw him in 1913. He had at that time a large tolerance and could eat all the vegetables that come to the table, 1 apple, 1 orange and 3 ounces of bread daily without having sugar in the urine. His weight was 219 pounds. After 1915, I saw him no more professionally. During these years he had placed no restriction on his diet, eating even batter cakes and syrup. He lost constantly in weight, reaching a level of 150 pounds several months ago. March 18, 1923, I was called to see him in consultation with Dr. M. H. McGuire, whom he had consulted on account of what seemed to be a mild case of the prevailing grippe. He had lost all appetite and all he had taken in the preceding twenty-four hours was lemonade made with 3 dozen lemons and 2 pounds of sugar. His urine contained 10 per cent sugar and the amount excreted in 24 hours was estimated to be one pound. Regulation of his diet brought this in eight days down to 1.5 per cent. He was then put on Iletin which in moderate doses promptly caused the disappearance of the sugar. This patient in two weeks of adequate diet which he cares for with the aid of Iletin, gained wonderfully in strength and energy. The loss in weight has been checked and he has now begun to gain.

Effect on Mild and Moderately Severe Diabetics.

Case 8. J. F. P., male, aged 50. Was referred to me by Dr. J. F. Chalaron, who had treated him for granular irritation around the inner neck of the bladder. Diabetes was discovered in 1910 at the age of 37 years. At that time he weighed 200 pounds. He did not lose weight until 1921; he then went down to 145 pounds which he has maintained for two years past. His chief complaints were the irritation in the bladder, nervousness and lack of energy. His tolerance was found to be less than 40 grams of carbohydrates. On moderate doses of Iletin it has been possible to raise his diet adequately to cover his needs and he had begun to gain in strength vigor and weight. He is less nervous and the bladder worries him considerably less.

Case 6. R. B., male, aged 47. A mild diabetic losing weight steadily in spite of adequate diet. Blood sugar ranged from 150 to 180 mg., and the urine contained sugar only occasionally. He complained particularly of loss of weight, strength, energy and great irritability. He had heard of the Iletin and insisted that it be given. Its effect has been very remarkable in restoring his energy and capacity for work and he now maintains his urine entirely free of sugar.

In view of the necessity of hypodermic administration of the remedy, of its great cost and still somewhat limited supply, I am far from advocating its use in all cases of diabetes. There are many mild diabetics who can maintain themselves perfectly well without it and *need* not take it. Please notice that I say *need not take it*, for I believe that every diabetic would be benefited by it. For the present I have set an arbitrary limit above which I am not inclined to give Iletin. Whenever the patient can take at least 60 grams of carbohydrates, 1 gram protein per kilogram of body weight and fat sufficient to cover his caloric need, and on this diet can maintain strength and energy and keep his urine free of sugar, I believe it is unnecessary to employ Iletin.

THE DOSAGE AND METHODS OF ADMINISTRATION OF INSULIN.*

By ALLAN EUSTIS, M. D.

In the early experimental work with Insulin in Prof. Macleod's laboratory at the University of Toronto it was determined that the injection of this substance in overdose in rabbits caused definite symptoms, characterized by excitability of the animal even to the point of convulsions, followed by coma and death. Intense hunger was also observed, the animal eating ravenously, and if sufficient food were given, the characteristic symptoms of an overdose were delayed and often not manifested. It was also observed that the blood sugar steadily declined in quantity and when it reached 45 milligrams per 100 cc. of blood (0.045%) the animals were

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seized with convulsions. These convulsions are very similar to strychnine poisoning and can be induced in the quiescent animal by shaking the rabbit, or even by raising it up by its ears. Convulsions occur from an overdose in from two and a half to four hours after hypodermic injection of the Insulin. It was finally decided by the Toronto group to establish as a unit the amount of Insulin that will lower the blood sugar to 45 milligrams per 100 cc. of blood (0.045%) in a rabbit weighing about 2 kilos.

The preparation used in this country under the trade name of Iletin, is manufactured by Eli Lilly & Co. of Indianapolis, as Dr. Lemann has told you, and was supplied to us gratis by this firm for the clinical tests. The unselfish and scientific manner in which they have undertaken the clinical tests of this new remedy before general distribution of the product deserves the commendation of the entire medical profession. While the Toronto group have standardized their Insulin so that one cubic centimeter contains one unit, Iletin, the American product, contains in the stronger solutions as high as 20 units per cc. A unit of Iletin is the amount of Insulin which will lower the blood sugar of a rabbit weighing 1 kilo to 45 mg. per 100 cc. of blood in from one to four hours after having been fasted for 24 hours. It is marketed in rubber stopped vials in different strengths, and wrapped in yellow, white and blue labels, to lessen the danger of an overdose.

H-5 contains five units per cc., yellow label; H-10 contains ten units per cc., white label; H-20, contains twenty units per cc., blue label.

I am mentioning these details as I feel sure that it will not be long before this remedy will be available to the general profession, at any rate, to those members of the profession who will take the trouble to teach their patients how to calculate out their diets and examine their urine. One unit of Iletin will metabolize one to four grams of glucose, but this action varies in each individual case, and it is therefore essential that the carbohydrate tolerance of each patient be first established before starting treatment, the carbohydrates, proteins and fats being slowly increased, with increasing doses of Insulin.

Time of Administration. The maximum effect of the remedy is reached in from four to five hours after injection and in our cases we have injected either just before or immediately after the meal, the best results, apparently, being when given before meals. In severe cases, and in coma, it should be given every four hours, and this also applies to operative cases of diabetes in which the glucose is being given by proctoclysis, or by hypodermoclysis. Some few patients can get along on only two injections, but most of them will require three injections daily.

Methods of Administration. Unfortunately, the remedy seems to have no effect when given by mouth or by enema, and must be administered by needle hypodermatically, except in diabetic coma cases, when it should be given intravenously. There seems to be some slight effect when the remedy is introduced in the form of a nasal spray but absorption by this route is too indefinite to be of value.

On the suggestion of Dr. F. P. Chillingsworth, I became interested in the administration by inunction, and in two cases this method of administration was resorted to with definite evidence that the Insulin was absorbed. It will be noticed that when the rubs were discontinued on three occasions, the patient's blood sugar promptly rose in twenty-four hours, with reappearance of sugar in the urine to disappear again when the rubs were resumed. However, it will also be noticed that it requires three times the dose by inunction as by needle, and this method of administration becomes quite an expensive item to the patient, and had to be replaced by the needle in both of the cases in which it was tried. The second case on whom I resorted to inunctions was a child of five, who resisted the use of the needle, necessitating a struggle each time administration was required. She remained sugar free with only five units by needle, and forty units by inunction the rubs being given four times daily. While without rubs it required 25 units hypodermatically, to render her sugar free. The importance of thorough

rubbing in the ointment was well demonstrated in this case, and may account for the fact that no one else seems to be able to obtain results by inunction.

As long as the trained nurse was kept on the case, the child remained sugar free, but when a relative gave the rubs, sugar promptly returned in the urine, although the child was on the same diet, and using the same ointment. I am convinced that in these two cases, the inunctions were most certainly efficacious.

The ointment used was made from anhydrous lanolin, which takes up approximately 40 per cent of water, and by using the concentrated solution of Iletin, H-20, containing 20 units per cc., very small quantities of the lanolin were required, for each rub, approximately only half a drachm of ointment being required. If further tests show that Insulin can be administered in this manner, it will certainly be a great help in the treatment of children with diabetes.

Dosage. As stated above, the dose for each individual case after establishing a maintenance diet, must of necessity vary, and in our experience, has varied from five to sixty units a day. In adult coma cases with a high blood sugar content, or one in whom there is 5 per cent or more of sugar in the urine, 20 units can safely be given intravenously, and 10 units hypodermatically, frequent examinations of the urine and blood sugar being made and the dose repeated or lessened, depending upon the effect of the first injection. Inasmuch as it has been my experience that the glucose from the protein molecule is metabolized even by Insulin, with greater difficulty than preformed glucose, I make a habit of administering glucose either intravenously, or by proctoclysis, aiming at burning up the excess of fatty acids, rather than ridding the circulation of excessive glucose, until the patient has recovered from coma. As long as the urine contains sugar there is no danger of hypoglycemia unless a large dose is given, provided the product is well standardized.

Symptoms and Treatment of Overdose of Insulin. Dr. Lemann has reported the characteristic symptoms in his case of hypoglycemia, which may be summarized as intense hunger, weakness, cold, clammy perspiration, muscular twitchings and coma. Treatment of the early symptoms, which should be explained to all patients taking Insulin, consists in the prompt ingestion of glucose. A glass of orange juice will give almost immediate relief of the weakness and hunger, but in coma cases from overaction of Insulin, more heroic methods may be necessary. Dr. Banting advises 1 cc. of 1-1000 solution of Epinephrin hypodermatically, which mobilizes the glucose in the tissues, and if the patient is unable to swallow, in a few minutes the intravenous of glucose, 25 cc. of a 10 per cent solution.

In rabbits the recovery from hypoglycemia, after the subcutaneous injection of glucose, is remarkable to observe, and you will notice that the animals eat voraciously as soon as they recover.

PROTOCOL.

Effects of injection of Insulin on Rabbits in lethal dose.

5 p. m. Brown rabbit, weight 6 pounds, equals 2.7 kilos, was given 40 units of Insulin by needle, subcutaneously in the abdomen.

7:20 p. m. Severe convulsion with evacuation of urine, lasted about two minutes, then rabbit became quiet, but droopy.

7:40 Animal lying flat with head extended and tail drooping; respiration rapid, takes notice of noises and lifts head and ears.

7:57 5 cc. of 10 per cent glucose by hypo.

8:00 Ate cabbage, which he formerly refused; ears still drooping.

8:08 Active and washing his face.

8:13 Normal, 5 cc. more glucose given.

The graphs of two cases are shown to prove that Insulin can be absorbed through the skin if properly rubbed in, the scope of this paper not covering the clinical aspects of the treatment, this being left to Dr. Lemann in his paper, while the blood findings in these cases will be reported by Dr. Giles, without whom we would not have been able to make these investigations, and to whom thanks are due.

Thanks are also due to the Department of Experimental Medicine of Eli Lilly & Co. in charge of Drs. Clowes and Walters, for their generous supply of Insulin during the course of these investigations, to Touro Infirmary for the free beds, to Drs. Lanford and

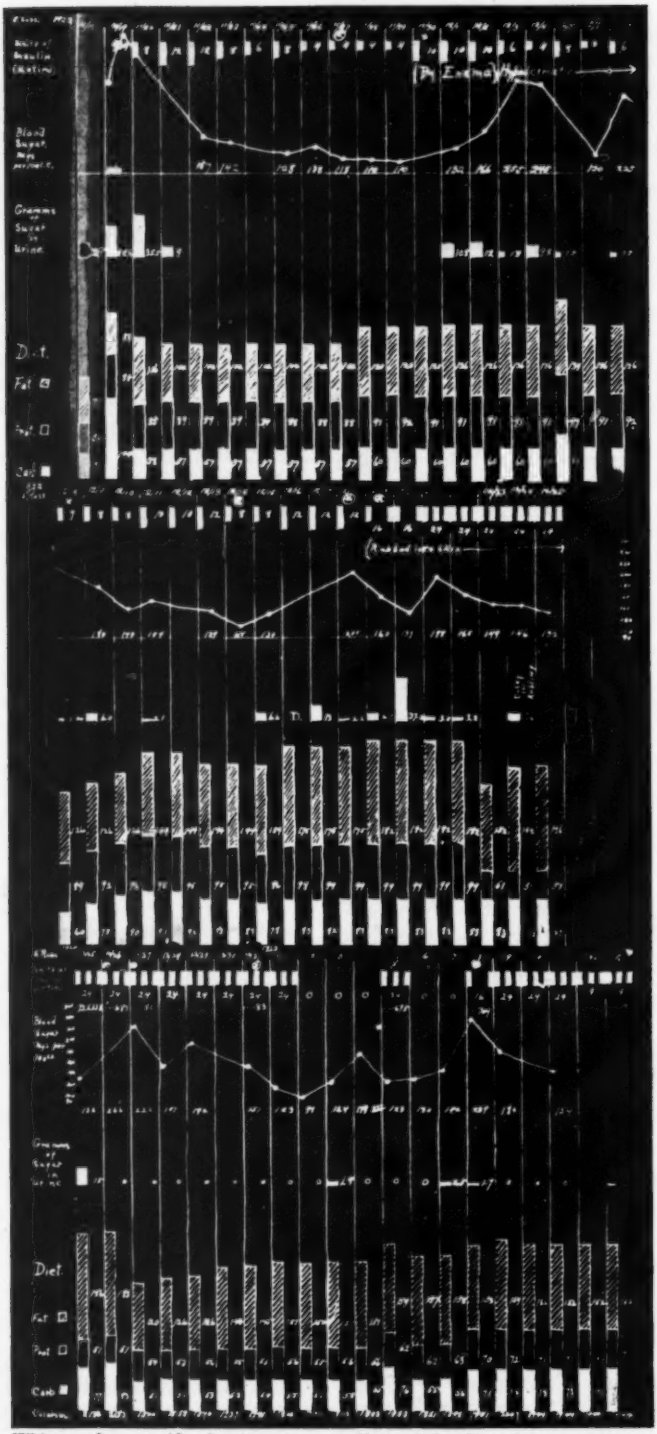

CHART I. White male, age 19, showing prompt effect of Insulin when given hypodermatically, the inefficacy of administering it by enema, as well as its good effect when rubbed into the skin, from Dec. 19, 1922, to Jan. 1, 1923. A rise in blood sugar as well as a reappearance of the glycosuria, will be noted on Jan. 4 to 7, when the rubs were discontinued.

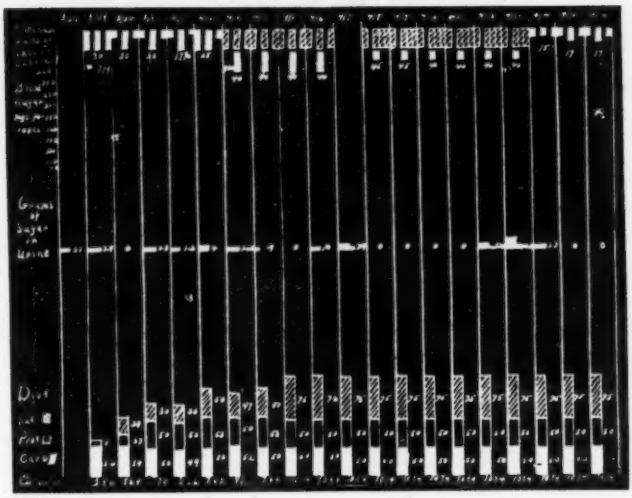

CHART II. White female, five years old, on the verge of severe acidosis. Showing the effects of the absorption of Insulin through the skin crossed rectangle representing the units of Insulin rubbed into the skin, and the solid rectangle representing the amount of Insulin given hypodermatically. It will be noticed from this chart that when the Insulin was thoroughly rubbed into the skin by the trained nurse, up to April 11, the urine remained sugar free. After the nurse left the case on above date, the sugar promptly reappeared in the urine, to be controlled later by hypodermatic administration.

Bowden of the Pathological Department, for their laboratory examinations, to Professors Garrey and Denis for many helpful suggestions, and to the latter, many laboratory determinations, and finally, to the nurses at the Touro Annex, and to my two assistants, Misses Monroe and Brechtel for their zealous co-operation in every way.

TREATMENT OF DIABETES MELLITUS WITH INSULIN (Iletin).*

By DR. U. W. GILES.

In the study of Diabetes there has been a closer collaboration between the laboratory and clinical investigator than any other disease. The main advances of knowledge of this condition have been done principally by men who have been thoroughly familiar of laboratory principles and experimental investigation.

Laboratory methods have been particularly helpful in the diagnosis of very early diabetes; and it is only through laboratory means that we are to determine the severity of the case and the detection of a beginning Ketonuria.

Previous to starting the Iletin experiments it was suggested that blood sugar determination should be done daily, and that a micro-method for blood sugar determinations should be attempted.

The reason for elaborating a micro-method was on account of assuming a secondary anemia may be produced in the patients, and also psychic deleterious effects may occur on repeated collections of such quantities of blood withdrawn daily. However this assumption has proven false, because I have withdrawn from 3-10 cc. of blood for 52 consecutive days and comparing the red blood count and hemogoblin today it compares favorably with that previous to the experiment. The micro-method was elaborated under the guidance of Dr. Denis, using 0.1 cc. of blood for the sugar determination instead of customary 2-5 c.c as required by the Folin and Wu original method. The method was first attempted with a fair degree of success, using Folin-Wu original method as a standard of comparison, but as I became more efficient with the technique of the method the greater the variation between the two methods; and being more interested in other problems this method was abandoned without discovering the reason for the variation. The method of Folin was adhered to, merely using smaller quantities of solu-

*Read Before the Meeting of the Orleans Parish Medical Society, April 9th, 1923.

tion, with a few minor changes when deemed advisable.

Recently Dr. Denis has carried out certain experiments, i. e. collecting the blood from normal individuals, mild and severe diabetic patients and also patients in coma. These bloods have been precipitated immediately, 3, 6, and 24 hours respectively at room and ice box temperature.

The results seem to show that in normal bloods the sugar content is lowered at certain degrees of rapidity; while in diabetics the blood sugar deteriorates at a slower rate; that the blood collected from patients in coma change at an extremely low rate or none at all in 24 hours; and that in the patients receiving Iletin the blood changes in direct proportion to the amount of Iletin received. This variation of Glycolysis explains the great variation of blood sugar determinations on the same individuals.

Recently I reported a 444 mg. blood sugar per 100 c.c of blood and a different laboratory reported 176 mg., but on questioning the technician it was discovered he had precipitated the blood 27 hours after collection.

A spleno-myelogenous leukemia patient, with a blood sugar of 126 mg. showed deterioration of 100 per cent in one hour.

The favorable comparisons were gotten when the two methods were used simultaneously on severe diabetic bloods. The greatest variations were gotten on the same diabetic persons when receiving Iletin. Burdened with my clinical duties thirty minutes to two hours would elapse between the two precipitation periods. On observing these changes found by Dr. Denis and looking back over the micro-method, it appears that the variations may not be due to the method itself or the technique, but in the time I precipitated the bloods. This assumption has later proven correct.

You have observed on one of the charts shown by Dr. Eustis that the fasting blood sugar is 222 mg. per 100 cc. of blood, and sugar is present in the urine. The patient is given Iletin and one hour after administraton the blood is collected and the blood sugar determination made and 124 mg. is found and the urine does not reduce Benedict's Solution. The next the blood sugar is again determined and 218 mg. is reported and the urine again reduces Benedict's Solution showing that Iletin does temporarily lower the sugar in the blood and banishes it from the urine.

Observing the chart of Mr. R. you notice that this man may take 180 gms. of carbohydrate and excrete 150 gms. of sugar in his urine. This partially has beeen explained by Drs. Lemann and Eustis as a burning of his body tissues and also probably a delayed sugar excretion. I do not feel that this fully explains his condition, because there is a definite impairment of some other function associated with partial lack of the pancreatic factor. Between Iletin injections the blood sugar invariably rose showing that a continual supply is necessary for the working enzyme. When the effect wears off, gamma glucose which is readily utilized or stored is no longer formed in appreciable amount, and a major portion of the sugar circulating in the blood cannot be removed, with the result that the sugar rises up to the leak point of the kidneys.

The experiments of Clark, Hewitt and Pryde, Winter and Smith have shown that normal blood sugar is a gamma glucose and that of patients suffering from severe diabetes is of an abnoral nature probably a. b. glucose.

Mr. R. yesterday took 90 units of Iletin and the diet was 30 carb., 30 protein and 100 fat and he excreted 36 gms. of sugar in his urine. Also an emotional disturbance must be considered. On observing this man you will notice a muscular twitching or spasm of thumb and index finger of left hand. It has been suggested that this condition is due to an organic lesion, but Drs. Van Wart and Holbrook negated this suggestion. In the diabetic clinics and wards I have seen just such conditons as this showing muscular contractions of the toes, hands, pectoral, abdominal and facial muscles; and also showing such a variation in the intake and output of carbo-hydrate. On questioning these individuals invariably a mental depression was noted. Carefully inquiring into this man's history it is discovered his business has recently gone into insolvency; he has recently lost his home

through fire, and at present forced to borrow money to meet his expenses, etc.

Laboratory Examinations: Examination of blood and urine are carried on daily for varied lengths of time, depending on the severity of the case. Twenty-four hours specimen of urine should be collected daily in usual manner and examined qualitatively and quantitatively making useful routine tests for volume, specific gravity, etc., also examined for sugar, acetone, diacetic acid and total nitrogen. The CO_2 combing power of the blood should be made at times. The bulk of the laboratory work was done by Dr. Bowden and it is only through Dr. Dowden that these experiments could have been completed.

Ketonuria, Acidosis and Coma. In many diabetic cases glycosuria is not the only problem reckoned with; a disturbed fat metabolism, ketonuria, acidosis and coma. Ketonuria associated with glycosuria clears up when sufficient carbo-hydrate is burned and this usually is brought about with diatetic management. However, with the injection of Iletin the ketonuria and glucosoria clear up quite rapidly. It apparently seems that in patients with an acidosis and taking a sufficient amount of Iletin the sugar disappears about 2 to 3 hours before the acetone from the urine and that acetone reappears 8 to 9 hours later and about 2 hours before the reappearance of sugar in the urine.

At the present we are not able to lay down a hard and fast rule as to the exact amount of Iletin and just what diet to be given. Iletin certainly is an advancement in the therapy of treating diabetes and its complications. While it is an advanced step in the therapy of coma, yet in advanced cases it has almost proven hopeless.

Hypoglycemia: In the comatose the danger of hypoglycemia must be combated by administering sufficient glucose at the same time. We must correct the disturbed fat metabolism and decrease the ketone production, and no need be paid to the glycosuria at this time.

In administering glucose intravenously it should be of the purest form and sterilized under pressure. I have recently given from 5 to 800 cc. of a 10 per cent glucose for eight consecutive days.

The comatose patient shows a response by a rise in the alveolar CO_2, fluttering of the eyelids, response to painful stimuli and reduction of the ketones. The alkali reserve rises more slowly than the reduction of ketone bodies and certainly later than clinical signs and symptoms, consequently we can easily be misled by the latter. Disappearance of sugar is no indication that the patient is much better and we should discontinue heroic treatment; for it merely indicates that more glucose should be given or possibly the use of epinephrin.

Summary: 1. Blood sugar can be decidedly reduced even below normal value.

2. Glycosuria is abolished.

3. Alkali reserve and alveolar CO_2 can be lowered.

4. Ketosis disappears from urine and blood.

5. Increased utilization of carbohydrate, shown by an increased respiratory quotient, and also explains the base of metabolism is increased.

6. The blood sugar of diabetes differs from that of normal persons.

7. In diabetics the decreased amount of blood sugar produced by injections of Iletin, contains a greater amount of normal blood sugar as shown by the alteration approaching normal.

DISCUSSION.

Dr. J. B. Guthrie: This is a therapeutic measure that is not going to be one of the things to be brought up and then cast aside. It is what we have been working and hoping for. There has been much of experimenting with pancreatic extracts in the treatment of diabetes. We have known for some time that the activating hormone of the liver came from the islands of Langerhans, but all attempts at utilizing it in diabetes have failed up to the time of Banting's work.

I happened to see one of Dr. Lemann's early cases. The case came in with pronounced acidosis and I saw the patient from time to time at the Touro. It was fascinating to watch the conquering of this diabetic syndrome—something I had not seen before.

Recently there was admitted to my service in Charity Hospital the woman Dr. Giles mentioned. She weighed 70 pounds on admission and had a blood sugar content of 623 mg. per 100 cc. The urine showed a larger output of sugar than total amount of carbohydrate consumed. She was a complete diabetic,

throwing out for days more glucose than the total of carbohydrates and proteins ingested. A prolonged state of malnutrition had produced pellegra lesions. This patient now receives 15 units of Iletin daily and has gained, in nineteen days, four pounds. Her skin has cleared up, the dry, harsh appearance has disappeared, she has with Iletin a tolerance of carbohydrates 50 gr. protein 56 gr. and fat 106 gr. She is sugar-free on this diet, and the diet is something more than sufficient for her daily need.

In another case also in the service of about the same weight, there was not quite so low a tolerance, but with the most restricted diet short of actual fasting, there was sugar in the urine. There was a tolerance lower than 30 gr. It is a sad thing to think of a patient being a slave to the hypodermic needle three times a day for the rest of his life. This is the outlook at present. The question of expense is a most important one. The expense will probably be cut down in the future. Perhaps some philanthropist will endow Insulin so that the charity patient can have it as long as he is willing to come.

What are we going to do with negroes? These are difficult patients under hospital conditions. We can trust very few of our patients to use a hypodermic needle themselves. Attending a case three time a day may be impossible. Why feed them three times a day? Why cannot we give them two meals a day and reduce the number of hypodermics to two, one-half hour before meal time? Could we not avoid the daily visits altogether? It seems to me that perhaps we might be able to get an oil suspension which would be absorbed gradually and act as gland implantation. We have succeeded in other directions with injections in oil suspension. It is worth further effort.

We cannot give Iletin indiscriminately, even with a cake of chocolate in the pocket for protection.

I do not mean to say that a daily blood sugar estimate is necessary, but it has to be done at intervals. Without blood sugar tests we are at sea. The first case I mentioned has a high threshold and a correct estimate of carbohydrate metabolism could never be obtained from the urinary output. Unless we are prepared to observe these cases by repeated blood sugar estimates, we should not yield to the temptation of using the Iletin excepting to keep up a previously determined dosage.

Dr. Devron: "It may seem ridiculous, but it occurred to me that as these doctors arrived at those conclusions by ligating the ducts of Wirsung, thereby isolating the active principle or Hormone; why cannot some of our local surgeons tie these same ducts in persons having diabetes instead of using hypos three times a day?"

Dr. I. I. Lemann (closing): I have committed a very grievous error; I have failed to express my appreciation to the hardest worker of them all, Dr. M. P. H. Bowden. If she had not been on the firing line we would not have been able to carry out our observations. I failed to mention her at all: I intended to put her name at the end as a climax.

I think it is also due the Society to explain the status of Insulin at the present time. Insulin is not on the market generally. Banting and Best patented the discovery and turned it over to the University of Toronto. The University of Toronto has licensed Eli Lilly & Co. in the United States and the National Research Council in Great Britain. The University of Toronto will manufacture it in Canada. It is not intended that there shall be any actual profit accruing to the University and any surplus will be devoted to research in the same field. Up to now the Toronto group, as well as Lilly, have felt it was not safe to put Insulin in the drug stores for prescriptions or otherwise. As you have seen, it is yet a matter of great importance to control the administration of Insulin with accurate determination of the tolerance of patient. Up to now, the men to whom the preparation has been sent have been approved by the Toronto group.

Dr. Giles pointed out that there are many people on whom it will be difficult to continue the use of Insulin for all of their lives. How can they do it? Several observations have to be made. In the first place, I do not yet believe that it is necessary to give Insulin to all diabetics. Many have mild cases and can get along without it. In view of the necessity of hypodermics and because of the limited supply, I think that we should set a level above which we may deny Insulin to the patient. Personally, I have set such a line. If the patient can, on a diet of at least 60 grams of carbohydrates, 1 gram of protein per kilo of body weight, and sufficient fat to cover the caloric needs of the body, keep energy and weight, he does not need Insulin. Insulin will benefit all patients, but all patients are not **compelled** to take it.

In the second place, we may look upon the use of this preparation as we do the use of digitalis. Heart cases are put on their feet by the use of digitalis and rest. I think that we have every reason to believe that we may restore patients by temporary use of Insulin and then they may go along for a period without Insulin and with dietetic treatment only.

Finally, I would like to answer Dr. Devron. I think the Doctor has failed to understand my statement thoroughly. Ligation of the duct of Wirsung brings about atrophy of the pancreas, leaving in the remnants only islet tissue; from this islet tissue insulin is produced by extraction. Ligation of the pancreatic duct will not cure diabetes but will produce fatty diarrhea.

PROCEEDINGS OF THE LOUISIANA STATE MEDICAL SOCIETY

Report of House of Delegates to General Assembly, Annual Meeting of 1923, at New Orleans.

During the present meeting of the Louisiana State Medical Society the House of Delegates held two meetings. The Council has also been in session and attended to all matters which were presented to them.

The House of Delegates had numerous and interesting matters for consideration which were disposed of expeditiously after due deliberation and consideration, the most important of which are presented to you for your information.

The report of our President, Dr. Paul J. Gelpi, was replete with interesting facts and recommendations. A special committee was appointed and made the following recommendations thereto:

(1) Thanks to our friends in the last Legislature for aid and assistance rendered.

(2). Vote of thanks to the Board of Directors and the Editorial Staff of the New Orleans Medical and Surgical Journal.

(3). Commendation of the Executive Committee, Secretary and his office for their attendance and cooperation during this tenure of office.

(4). Recommendation that the affairs of the Journal be under the control of the Executive Committee who will appoint a Journal Committee with overlapping terms of office for membership on this Committee.

(5). That the Hospital Abuse Committee should become active and in conjunction with like Committees from Parish Societies and Hospitals to formulate laws to correct Hospital abuse, after which to consult with the Committee on Public Policy and Legislation for the purpose of formulating and introducing a Law for Hospital Abuse.

(6). That the House of Delegates go on record as opposing plan offered by the American Medical Association of districting the United States into District organizations.

(7). Recommendation that a Committee of 5 be appointed to develop plans and means for the erection of a memorial to the lamented Dr. Walter O. Reed in commemoration of valuable services rendered his profession.

The Secretary-Treasurer's report giving the activities of the office for the past year was submitted and upon recommendation of Secretary's Report Committee two recommendations, as follows, were adopted:

(1) May 1 was the time decided for suspension and June 1 for the time for dropping from the rolls of the Louisiana State Medical Society any member failing to pay annual dues up to these dates and reporting same to American Medical Association

(2). That the fiscal year of the Society revert back to January 1st for reasons made known in the Secretary-Treasurer's report.

The Chairman of the Council, with the other reports of Councilors from their respective districts were submitted and approved. These gave activities and medical efforts occurring in the various Congressional Districts.

Likewise the various Committee reports, both standing and special, were called and all of them, with the exception of the Committee on Hospitals and the Committee on Health Problems and Education, submitted their reports.

As per request in the report of the Committee on Public Policy and Legislation, a vote of thanks was sent to the various Senators and Representatives who were of material assistance and aid to our Public Policy and Legislation Committee in Baton Rouge during the recent session of the Legislature.

Upon recommendation of the old Budget and Finance Committee the new Budget and Finance Committee will be of only three members with overlapping terms of 1, 2 and 3 years respectively.

The Committee on Medical Education submitted a very interesting report reciting the activities of our medical schools in this State. This was a very unusual report and showed that medical education was being conducted in New Orleans on just as high a plane as in any other center of the United States.

It is interesting to know from the reports of the Committees on Vivisection and Public Policy and Legislation and that two bills antagonistic to the medical profession,—namely the Anti-vivisection bill and the bill to legalize the the practice of chiropractic in this State, were combatted by this committee and defeated.

The House of Delegates disposed of a very important committee report "Care of Indigent Physicians" by placing this Committee as a standing committee with its present Chairman, Dr. C. A. Weiss to devolop plans and means for future consideration to take care of our indigent physicians. This represents a decidedly new and progressive step by the State Society to aid its members in time of distress.

The report of the *New Orlenas Medical and Surgical Journal* owned by the Louisiana State Medical Society, showed an immense progress within the last 10 months and presented a financial statement which was flattering.

The Louisiana State Board of Medical Examiners submitted what was considered the best report that we have ever been furnished from this Board giving in detail the activities and accomplishments during the past year.

A very interesting letter from Dr. W. C. Woodward, Executive Secty., Bureau of Legal Medicine and Legislation was presented and the House adopted recommendations condemning the Veterans Bureau for training ex-service men as chiropractors and as opposing practice of the Legislative Bureau from amending and promulgating regulations to the National Prohibition and Harrison Narcotic Acts without consulting the medical profession.

They also adopted a resolution favoring the organization of the Women's Auxiliary to the State Medical Society as requested by the Women's Auxiliary of the A. M. A.

Concerning the report made by Dr. T. E. Wright in 1922, House of Delegates voted that District Societies should be entitled to one delegate in the House of Delegates.

Also, as per recommendations made by our retiring President, Dr. Knighton, amendment to the By-Laws was passed reducing from 10 to 7 papers in the Surgical and Medical Sections respectively, this cutting down by 6 the total number of scientific papers.

They also, after all legal requirements had been made, voted for the amendment to the Charter whereby our retiring President should be a member of the Executive Committee for one year.

The House of Delegates went on record as opposing the present manner of labeling caustic preparations and requested Legislative Committee to formulate bill after the Pennsylvania bill, for introduction at the next session of the Legislature.

Also it adopted resolution favoring the present Charity Hospital appeal.

Upon request from the State Board of Health resolution was adopted endorsing the collection of Vital Statistics in the State and the report to the Council for consideration of members of the Louisiana State Medical Society who failed to report vital statistics as they should.

Marriage Law: The House went on record as favoring a Law restraining the insane, feeble minded, epileptic or people infected with venereal diseases from marriage and special committee was appointed to draw up a suitable Law containing these sentiments and views and report back to the House of Delegates at the 1924 session for confirmation.

Dr. C. P. Gray was elected as fraternal delegate to coming meeting of the Mississippi State Medical society and Dr. S. C. Barrow of Shreveport was appointed fraternal delegate to the coming Texas State Medical meeting.

Resolution Committee offered the following resolutions which were adopted:

WHEREAS, the Ladies, the Local Medical Profession, Mayor of the City of New Orleans, the Arrangement Committee, Scientific Exhibitors, the Tulane College of Medicine, Tulane Post-Graduate School of Medicine, Loyola Post-Graduate School of Medicine, Eye, Ear, Nose and Throat Hospital, St. Luke's Sanitarium, the Local Press, Chief of Police, **The New Orleans Medical and Surgical Journal** and the various clubs have left nothing undone to make the present meeting of the La. State Medical Society both pleasant and profitable;

BE IT RESOLVED, That the thanks be extended on behalf of our Society to all concerned for their gracious and untiring efforts to make our stay in their midst most pleasant and profitable.

WHEREAS, The Officers and Clerical Force of the Society have been untiring and successful in their efforts to maintain the strength and dignity of our Society during the past year,

BE IT RESOLVED. That the thanks of the Society be extended to our past officers and the office force for their unfailing devotion to our beloved Society.

WHEREAS, It has been generally commented that the business of this meeting has been transacted with such punctuality and smoothness that the fact that there was a machinery of operation was scarcely apparent.

BE IT RESOLVED, That thanks and appreciation be extended to our Secretary-Treasurer, Dr. P. T. Talbot and his Assistants, whose foresight and efficiency rendered the above possible.

Respectfully submitted,
(Signed) DR. A. O. HOEFELD,
Chairman.

We are very proud to report the unusual attendance at the annual meeting just passed, which showed a total registration of 486 members of the State Medical Society and with guests and visitors ran the total registration up to 602. This is a distinct evidence of increased interest of the members of the Society at the Annual Meeting. An added feature of our meeting was the scientific exhibit, composed of 56 exhibitors, displaying specimens, cuts, etc., of medical interest.

Trusting that the above report will receive your approval and our actions warrant your commendation,

Respectfully submitted,
P. T. TALBOT,
Secretary-Treasurer.

New Orleans Medical
and
Surgical Journal

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EDITORIALS

A STATEMENT OF THE BOARD OF DIRECTORS.

It is just one year since this JOURNAL became the property of the Louisiana State Medical Society. The committee of arrangements for the meeting of the American Medical Association last held in this city, after entertaining the members in an unusual and successful manner, still had left in its treasury some three thousand dollars. After deliberate consideration this sum was devoted to the State Society to be used as a first payment on the purchase price of the JOURNAL, all of which has been duly published, but is told again to freshen the reader's memory.

This left a balance to be paid of two thousand dollars, represented by three notes of $666.66 each, one to be paid annually. Note number one has been taken up and the interest for the first year has been paid in the two others. The money has come from the earnings of the JOURNAL, not from the treasury of the Society which, up to date, has not had one cent of expenditure for the acquisition or the publication of the JOURNAL.

This financial result was made possible only because the Board of Directors insisted upon following a conservative and economical policy, not yielding to the wishes of the over-zealous who, through the sudden adoption of radical changes, might have led to a debit instead of a credit on the balance sheet.

Nothing is easier than to spend money, especially the other fellow's, but our desire was, not to splurge nor to attempt to shine by means of an ill-afforded brilliancy, rather to demonstrate the financial possibilities of the State Journal, serve its membership by the publication of the annual proceedings, and furnish a medium for the dissemination of other medical information and the interchange of ideas.

Our aim was to add gradually to the attractiveness of the JOURNAL, both as to its physical make up and its literary quality, in proportion to our financial ability. After the purchase price has been liquidated, more rapid progression rightfully can be anticipated. In the meantime, during the short time we have remained in full control, we have done the best we could. The future of the JOURNAL will depend upon the co-operation of the members of the State Society and the degree of their disinterested assistance.

VOLUME SEVENTY-SIX.

Owing to the fact that the Executive Committee of the State Society had not yet appointed the Journal Committee which will be charged with the management of the JOURNAL and be endowed

with the powers of a Board of Directors, the Existing Board had been requested by the Executive Committee to continue in authority until the new appointments could be made.

Inasmuch as the former editor-in-chief had already announced his inability to continue in office, owing to the lack of time necessary to fulfill its duties and, furthermore, because of some disagreement as to policies and authority, the Board of Directors deemed it simpler to assume all responsibility for the editing as well as the publishing of this the first issue of volume seventy-six.

Certain changes in form and appearance, which have been under consideration for some time, but could be inaugurated consistently only with the beginning of a new volume, will be noted. We hope they will meet with the favor of our patrons. At any rate we have done what seemed to the best advantage of the JOURNAL and, consequently, the society. Whatever may be the verdict our comfort will be that we have served as managers during the past year to the best of our ability and that we shall have served with an increased responsibility until relieved by the appointment of our successors.

THE NEW MANAGEMENT.

The president of the State Society, by authority of the Executive Committee, has appointed the following as members of the Journal Committee. Dr. H. B. Gessner, New Orleans; Dr. A. A. Herold Shreveport; Dr. Oscar Dowling, New Orleans; Dr. A. O. Hoefeld, New Orleans; Dr. H. W. E. Walther, New Orleans.

They will take over the managing and editing of the JOURNAL and we bespeak for them the same measure of kindness and co-operation that we have enjoyed during our term of office. The more rapidly they can improve the publication the better pleased shall we be. It is not often that valedictories come in such close succession, but our turn has come to say farewell and thank you. Long live the JOURNAL.

OUR RUSSIAN COLLEAGUES.

A communication received from Dr. W. S. Thayer calls attention to the deplorable condition of the physicians of Russia. While the demands for their assistance have multiplied many times, they have been lacking in medical supplies and almost deprived of the necessities of life. They are in need of food and clothing for themselves, of drugs and surgical instruments for their patients, to say nothing of books and journals printed in English.

The American Medical Aid for Russia, the Medical Division of the American Friends (Quakers) Service Committee are trying to collect the above mentioned necessities and are in a position to assure American physicians that contributions will be efficiently distributed to Russian hospitals, medical schools and individual physicians.

It would be of immense help if all who can afford to do so sent some money and those who have them to spare sent clothes, files of journals, medical books and instruments.

Naturally, most of us no doubt feel out of sympathy with Russian politics and disturbances, yet we must remember that the physicians, from the very nature of their calling, are more apt to be the least involved in the upheaval and the most deserving of our commiseration.

Many nationally known and esteemed physicians of this country are included in the membership of the committee, whose secretary is Frances Witherspoon and whose address is 103 Park Ave., New York City.

CHARITY HOSPITAL APPEAL.

As we write, the indications are that the appeal made to the people of Louisiana, for funds to put up some necessary additional buildings, by the Board of Administrators of the Charity Hospital, will bring about three hundred thousand dollars. This amount, of course, is quite inadequate to fill the need but it will do something. In addition, the main purpose of the Board has probably been attained, that is the dissemination of information regarding the hospital which was necessary to acquaint the profession and the people with the actual situation there. This should make it simple for the legislature to do the remainder at its next session.

THE SELLA AND THE OPTIC NERVE.

DR. DIMITRY stated that he became interested in the bony orbit in search of explanations for certain head and eye complaints which were not well understood. He mentioned that many of them were usually classified as primary but he could not accept of such a disposition, which then led him onward to the realization that he should become familiar with radiograms of the cranium and that he should study his problems with the radiologist if he was to accomplish his desires. He stated that there existed an immense number of air cells in the different bony plates which formed the orbit, and stressed the effect that pathology in these cells would have upon the eyes, but he centered his remarks upon the sella and the effect that changes in the sella would have upon the optic nerve, the other ocular nerves, and the vascular supply to the eye. He called attention to the anatomical location of the chiasm, the optic tracts and nerve, and by diagrams demonstrated how they may be affected when disease exists in and about the sella.

He stressed the necessity for a more familiar knowledge with the normal sella, in fact if the subject was to be understood there should be a complete knowledge of the middle fossa of the cranium. He considered the size and development of the sphenoid and then projected different tracings of the normal sella and finally showed a collection of tracings of the altered sella. In conclusion he contended for a greater cooperation with the radiologist, when you wished for greater details, and not to delegate the entire work to him, when facts possessed by yourself would be of mutual benefit.

Dr. Homer Dupuy (discussing Dr. Dimitry's paper). We are breaking into new ground. Dr. Dimitry is right, and pathology in the Sella Turcica region explains many serious eye diseases. We now know that the optic nerves very frequently pass through the Sphenoid Sinus being only surrounded by the mucous lining of this cavity. Sinusitis must, oftener than we suspect, involve these very nerves. As to the Clinoid processes, their haziness does not necessarily mean pathology. They are subject to normal variations found in all bone structures. See how the Styloid process varies as to size. The X-ray pronouncements relative to the Sphenoid are not yet infallible. Of course we have made material progress and we must keep up the good work.

Paper was also discussed by Drs. L. A. Fortier and J. T. Nix.

Dr. L. A. Fortier exhibited skiagraphs of metastatic tumors of lungs. Discussed by Drs. Danna, A. C. King and Couret.

DR. H. N. BLUM: I have four cases of injury caused by foreign bodies which I wanted to show tonight but only three cases have come. This gentleman was in Ward C. About three weeks ago he was sent down from the country with a history of an injury to his eye caused by hammering a piece of metal. I saw that he had a wound of entrance of the foreign body at the lower corneo-scleral limbus. The foreign body had penetrated the eye, there being apparent a wound of entrance and the X-ray showed the foreign body to have remained in the eye ball. It was located with the Sweet apparatus and also shown by the movement of the shadow corresponding to the movement of the eye ball. There was a hemorrhage in the anterior chamber and in the vitreous. Removal was attempted with our small hand magnet but since the foreign body was beyond its field of action, we were unsuccessful. In such cases, we require a giant Haab magnet. The smaller the foreign body, the greater must be the magnetic power and the further the distance the greater the magnetic power required. The foreign body was located at the posterior pole of the eye and when the point of the magnet was pushed in the lower culde-sac in proximity to the posterior pole, there was evidence of pain. We knew then that the foreign body had moved and that it was magnetizable. Gradually, the foreign body was coaxed to the anterior part of the eye ball and then removed at the wound of entrance. It came out with great rapidity and there was an audible snap. The foreign body is here shown and it is two or three mm. in diameter and triangular in shape. I regret that we are unable to show the X-ray pictures because they have been misplaced. The situation today is that though the foreign body has been removed the condition of the eye is still serious. The steel came out with such rapidity that it is very possible that as much damage was done coming out as in going in. The cloudiness of the vitreous makes it impossible to see the red reflexes of the retina. Examination fails to show any evidence that the lens has been damaged, the foreign body evidently traversing the eye around the edge of the lens.

Whether or not the operation was a success remains to be seen by developments in the future. We know that the fellow eye has been protected against sympathetic ophthalmia. When foreign bodies are magnetizable, in a very large percentage of cases they may be successfully removed, if not at first, after several trials. Sometimes we have to make an incision over the point corresponding to the location of the foreign body in order to get the full power of the magnet especially when we operate with a small hand magnet. In the cases of wood, copper and glass, or other nonmagnetizable objects, we have to operate by opening the sclera at the point of localization or by a point opposite to that place where we can introduce a forceps and grasp the object, removing it thru the vitreous, and of course accomplishing much traumatism thereby.

Case 2. This gentleman is a grocer and one day while hammering on a barrel hoop he felt something strike his eye. The wound of entrance is about in the neighborhood of 7 o'clock at the corneo-scleral limbus. The path of the object can be traced through the cornea, through the iris, around the edge of the lens, thru the coats of the eye at its posterior pole, back to the orbit. You see that he has a linear wound at the limbus, and hole in the iris and with the ophthalmoscope, the hole in the chorio-retina may be plainly seen. With the X-ray, the object was definitely located in the orbit. The patient has normal vision today, the wound being temporal to the macula, the eye is quiet and while he has some scars in the posterior eye ball, some vitreous opacities which will bear close observation, the prognosis seems to be good. Of course it was unnecessary to use a magnet in this case since the foreign body was no longer intraocular.

Case 3. This is not a case of foreign body but in the absence of another case which I intended to present, I thought this would be of interest to the internists. This woman came to the clinic with complaint of failure of vision of right eye and gradual loss of vision in the left eye. You may see that she has a cataract in the right eye which is a complicated cataract. She has an incipient complicated cataract of the left eye. She was placed on mixed treatment and her general condition improved. I do not remember whether the

Wassermann was a positive or not (since this time another Wassermann has proved negative.) I sent her to the medical clinic for general examination and Dr. Cole made a clinical diagnosis of probable T. B. of the upper right lobe. I have always believed that mixed treatment was harmful with tuberculosis patients. Her general condition has apparently improved though the eye condition has not changed. Tuberculosis of the eye in our part of the country has been considered a rarity, it may be that we have failed to recognizé cases. It is doubtful that the use of tuberculin would be of much benefit in clearing up the diagnosis, since it has been said that the focal reaction to any protein injection would be the same as that following tuberculin.

We can only make a diagnosis of this case by the progress of the case.

Case 4. This particular case is of more than usual interest. He came to my office about one year ago complaining of a gradual increasing dimness of the left eye. He had gotten a foreign body in the eye the year before by working at his trade of auto mechanic. When he came to me, there was a very thin bluish white scar in the cornea, a hole in the iris, and a black object in the posterior lens. X-ray picture of the eye showed the foreign body present in his eye and the patient has been kept under observation while the opacity of his lens gradually increased until the whole lens was cataractous and until the lens could be successfully removed. At the time of the operation, the nasal half of the lens which was soft came out without difficulty and the temporal half came out in one large piece containing the foreign body on its posterior surface. There was very little interference with the wound at the time of the operation but despite this fact, the slow intraocular infection became gradually manifest. I believe that this infection was caused by the foreign body itself, which being in the lens was latent and only became manifest at the time of the operative procedure. There was practically no iritis and all of the inflammatory signs pointed to an infection of the deep eye. This foreign body was on the posterior surface of the lens and after it had been removed from the eye, we saw that it was attractive to the magnet. Prognosis is fairly good. The eye today is quiet but there are numerous vitreous opacities which interfere with a clear view of his fundus and therefore with good vision of his eye.

Dr. M. Feingold (Discussing Dr. Blum's cases): With the rise of industry at the end of the last century, and with the greater use of steel, the number of injuries to the eye increased to a very alarming extent and the need was soon felt for means of removing steel from the interior of the eye. It must not be forgotten though that quite a long time before attempt had been made to remove pieces of steel by the use of a magnet. Great hopes were placed in the giant magnet Professor Haab of Zurich was to build for the purpose of saving the sight of eyes with such injuries in such manner that the other eye would remain unharmed. Methods of localizing foreign body in the eye were developed, such as the sideroscope, the different methods by means of the X-ray and also by watching the effect of the magnet. But we must admit that the results have not fully justified our hopes. When the foreign body goes in, it destroys certain tissues in the eye, it cuts a path in the eye and when we remove it, it must, most of the time, cut a new path through the eye. If during the first injury, tissues were torn and hemorrhage produced, the road of the exit is again having similar results. Statistics show that very small numbers of the eyes are ultimately saved with good eye sight and without danger to the other eye.

Another point emphasized by Dr. Blum is the size of the foreign body and its momentum. This was shown very well in two of his cases—in one case the foreign body was comparatively large, but it had sufficient momentum not only to cut the eyeball and enter the eye, but the force was sufficiently great to cut the ball again and produce a second perforation; as emphasized in his other case, it is on the other hand rather good to have a small foreign body with very little momentum.

During the late war quite a number of interesting injuries occurred. Small foreign bodies like innumerable fine pieces of lead or stone were sprinkled into and lodged in the eye; injuries with pieces of rust free nickel steel from bullets lodged in the retina and remained visible in the eye without damage to the eye. That foreign bodies can heal and remain in the eye for years and not do any damage was demonstrated by me some years ago before this and since. A boy's left eye had been injured by a lead bullet from an air rifle, penetration of lid, cornea, iris, and lens occurred and the bullet remained lodged in the retina without injury to the sight during the time of observation, several years. Iron, steel, etc., are rather irritating to the eye and demand removal; lead, glass, etc., are rather inert. Unfortunately, all iron is not magnetic, and can, therefore, not be removed by the magnet.

Another chapter of foreign bodies which has of late gained considerable importance, is the change produced in the eye by copper. Copper will, if remaining in the eye, produce certain changes which are of tremendous interest, which have been termed chalcosis.

The patient of Dr. Blum's with tuberculosis and who improved under antiluetic treatment is paralleled by another case of Dr. Blum which he had transferred to my service at Charity Hospital. A colored man with numerous small gelatinous nodules in each iris, severe apical infection in the lungs, who improved under mixed treatment and salvarsan given because of a positive Wassermann. A piece of iris from his left eye was removed by me during operation and histologic examination shows the nodules in the iris resembling tubercles. That tubercular patients might improve under antisyphilitic treatment is unquestionable. Recent literature emphasizes that we cannot lay too much stress on im-

provement under tuberculin treatment it may simply be reaction to a foreign protein.

Dr. W. P. Bradburn: I am presenting this case to-night because of the improvement noted in the case, an improvement which is almost unbelievable. I saw this patient here a week ago which was an interval of about 7 weeks from the time I first saw her and after the diagnosis had been made and treatment begun. When first observed, that is, 8 weeks ago, the patient was running temperature of 101 to 102 degrees, and gave a history that for a year past she had not been feeling well, had lost weight, etc., but in the three months previous she had gone down rapidly and had had a constant irritating cough with some expectoration of blood. She had to be brought down to the hospital on a cot. She was extremely weak and emaciated, practically no appetite and had lost her interest in all things generally. Examination at that time showed dullness in the left side of the chest from about the fourth rib, mid axillary line, downward, the flatness following this level anteriorly and posteriorly. Percussion sound over the upper portion of the lung was about normal as compared to the right side. There were no rales to be heard in either lung. A tentative diagnosis of probably tuberculosis associated with pleurisy with effusion was made, a needle was put into the chest, and 50 cc. of a straw-colored fluid removed. This was not exactly the straw-colored fluid of tubercular pleurisy, there was a slight haze. I took this personally to Dr. Lanford, who made immediate examination and reported that the sediment is made up of blood cells and the large embryonal type of cells suggestive of neoplasm. The culture made of the fluid removed was negative. This case was then referred to Drs. Samuel and Bowie for X-ray. Their report follows ("evidence of an extensive pericardial adhesion with marked opacity over the lower portion of the left lung. There is a large mass in the upper portion of the left lung which is probably a new growth.") Having confirmed the diagnosis of neoplasm by means of X-ray the case was turned over for deep therapy to Dr. Bowie. After Dr. Bowie's exposure the case was allowed to go home within twenty-four hours. When seen a week ago, that is seven weeks after deep therapy, the patient had come down to the office in automobile, was feeling distinctly better, able to get about the house and had taken a new lease on life. Her temperature does not go over 100 and she tells me that within three days after she left the hospital, that is four days after deep therapy exposure, all blood ceased and she began to notice a distinct improvement. Percussion showed the fluid level distinctly lower than at the first observation and X-ray taken at this time showed as above.

This case is one, I believe, that some years ago without the use of the deep therapy, would not be here today, and I believe that the prolonging of her life has been due to Dr. Samuel's and Bowie's use of the deep therapy. The further progress of the case is still to be determined. She is to report back at intervals of two months for X-ray examination of the chest and observation. I am presenting this case because of the marked improvement within the short interval of time, 7 weeks, and also to take this opportunity of acknowledging my indebtedness to Dr. Lanford, as he first suspected the cause of the patient's condition, and to Dr. Samuel and Bowie for their handling of the case subsequently. We trust that the patient will continue to improve.

Dr. Hirsch: What reaction did she have following deep therapy treatment?

Dr. Samuel: She had some vomiting afterwards, but not a great deal, because she was not given a carcinoma dose. She was given a sarcoma dose which is less than carcinoma lethal dose. She had 80 minutes. Some remains of the growth are still present and we thought we would radiograph her in four or five weeks and if it is not entirely cleared, we would give her about one-half of the dose anteriorly and posteriorly. We had a case from the surgical clinic four weeks ago. Dr. Brewster might remember a colored man with a sarcoma of the axilla which also involved the pleura. He was re-radiographed, and tumor has almost disappeared under the carcinoma dose which was about 120 minutes. We hope to present those two cases together so we can see just what the dosage has been in both of them.

BULLETIN OF THE LOUISIANA STATE MEDICAL SOCIETY

By DR. P. T. TALBOT, Sec.-Treas.

We are very gratified to announce that up to the present writing the membership of the Louisiana State Medical Society numbers 1,102, while this numerically compares favorably with the membership at the same time last year, we have not yet the last year's enrollment. We have succeeded in getting some new members in 1923 who were not members in former years, yet we have been compelled to drop from membership some names to date, who did not pay their dues for the current year; these names have been sent to the American Medical Association and will thus bar them from becoming Fellows or Members of the American Medical Association. We earnestly hope that those who have been dropped will renew their membership in the State Society, as no doubt is the case some of them have negligently passed this important function, forgetting that the dues of the State Society should be paid in advance.

We are very desirous of getting more members in the State Society. Our Councilors in the various Districts have been very active in organizing those Parishes where needed, and in many other ways adding new names to our rolls, but their energies and enthusiasm must be more productive in bringing in the proper members into our organization. I dare say there are three or four hundred, high class, eligible physicians in our State who are not enjoying membership and the privileges of organized medicine. Just how may we reach them and draw their attention to their professional obligation to "Organized Medicine"? Surely there is some way that they may be influenced. We have in the past tried various plans, which have at times been successful, but as a whole not securing desired results.

It may be interesting to know that one of the most important features of membership in our State Society is our Medical Defense and its protection to our members against malpractice suits. The Secretary-Treasurer recently had the occasion to confer with reputable Insurance Companies and was astonished to learn that to underwrite such a fund and protection, an annual expenditure of some $2,500.00 was required, being about $2.25 per member. This amount when paid would annually consume over 50 per cent of our income and would therefore be prohibited.

This is merely recited to show what the State Society offers its members and for their protection and does simply bring out the old adage "In union there is strength."

We Must Have More Members in Our State Organization, we have to progress and in order to do so we have to reach out and get more members who by their influence and work will help in a scientific and economic way to make our State Society what it should be.

ST. MARY'S HOSPITAL, Patterson, La., observed her Hospital Day, which was dedicated to the memory of the late Dr. William D. Roussel, its founder. As it conflicted with other dates, this institution was unable to participate with the National Hospital Day, but selected May 31 in its stead.

From 9 A.M., to 5 P.M., Drs. F. J. Kinberger and John T. Crebbin of New Orleans, assisted by doctors of the parish and Miss Milliken, Parish Nurse, together with the staff of St. Mary's Hospital, examined a large number of babies two years of age and under. Much helpful instruction was given to the mothers and it is felt that the efforts put forth by the visiting men were well worth while.

At 8 P. M. the graduating exercises for the nurses were held in the Arcade Theatre and were attended by a large and enthusiastic audience.

This hospital formerly owned by a stock company, is now owned and operated by Drs. L. B. Crawford and G. G. Aycock and has an able and efficient Superintendent, in the person of Miss A. L. MacGahen. The Nurse's Training School was recently inspected by Dr. Crebbin and given a high recommendation.

St. Mary's Health Association is now conducting an Orthopedic Clinic, at the hospital, every third Saturday, under the direction of Dr. Paul McIlhenny, of New Orleans. It is the aim of the hospital authorities to extend this work to adjoining parishes.

NEWS AND COMMENT

GRADUATE SCHOOL OF MEDICINE, TULANE UNIVERSITY.—The thirty-sixth annual session of the New Orleans Polyclinic, Graduate School of Medicine of Tulane University, came to a close June 9. In spite of unsatisfactory financial conditions, the session just closed numbers among the good ones, there having been 202 students, registering from thirty-three states and two foreign countries—China and Canada.

TULANE GRADUATES SEVENTY-SEVEN DOCTORS.—The annual commencement of the School of Meicine of the Tulane University of Louisiana was held on June 6, 1923, and there were graduated wtih the degree of Doctor of Medicine seventy-seven young men. The new Dean of the School, Dr. C. C. Bass, presented the diplomas, with a few words of farewell and encouragement to the young physicians. There were also graduated twenty-eight pharmacy students, who were awarded the degree of Graduate in Pharmacy. Those granted the degree of doctor of medicine are as follows: J. F. Allison, J. C. Allen, H. B. Alsobrook, H. S. Awtrey, J. J. Baron, Clara B. Barrett, R. C. Basinger, H. J. Battalora, M. E. Bizzell, C. W. Blackshear, D. Brannin, O. W. Britt, C. S. Carter, C. E. Catchings, Jr., J. C. Chapman, L. J. Clark, J. A. Colclough, H. O. Colomb, W. H. Cook, C. G. Devron, N. S. Dickson, H. C. Douglass, J. P. Dyar, D. J. Farley, J. V. Ferguson, W. L. Fitzgerald, J. R. Flowers, T. P. Frizzell, Jr., G. G. Garrett, E. B. Gill, P. M. Girard, W. H. Gordon, Mary R. Gould, L. D. Gremillion, Goldie S. Ham, R. T. Hambrick, M. D. Hargrove, J. A. Hart, R. E. Henderson, J. S. Hodges, J. R. Horn, Jr., Sarah E. Huckabay, M. C. Hunt, G. E. Knolle, M. S. LeDoux, C. J. Lewis, A. H. Little, J. N. Lockhard, F. L. Loria, C. O. Lorio, T. P. McGahey, E. H. Maurer, Z. L. Merritt, K. A. Morris, L. J. Neal, J. G. Palmer, C. V. Perrier, L. K. Pruit, K. C. Reese, M. J. Rivenbark, C. C. Rudolph, M. Salazar y Baldioceda, A. A. Scardaccione, W. M. Scott, J. F. Shuffield, J. F. Sicomo, T. Sims, C. T. Smith, T. L. Smith, A Sternbach, W. D. Stickley, G. H. Sumner, F. M. T. Tankersley, C. B. Tittle, C. H. Tyrone, J. M. Washam, F. K. Williams.

PROVISIONAL BIRTH AND MORTALITY FIGURES: 1922—The Department of Commerce announces that provisional birth and mortality figures compiled by the Bureau of Census for 1922 show lower birth and higher mortality rates than for 1921. For the 24 states shown for both years, the 1922 birth rate was 22.7, against a rate of 24.4 for 1921, the highest 1922 rate being 30.2 for North Carolina and the lowest 18 for the state of Washington. For the 33 states mortality rate shown for both years, the 1922 rate was 11.9, against a rate of 11.6 for 1921, the highest 1922 rate being 14.7 for Maine and the lowest 8.1 for Idaho.

TUBERCULOSIS IN PORTO RICO.—According to Dr. J. G. Townsend, of the U. S. Public Health Service, who recently returned to the United States after a five months' study of the tuberculosis situation in the island, the laboring classes in Porto Rico suffer greatly from the disease. The death rate from tuberculosis is a little more than 200 per hundred housand. This is greater than that of any state in the Union except Colorado, where the death rate is enormously increased by the constant immigration of tuberculosis patients, for whom there is no longer any hope.

THE CONGRES INTERNATIONAL DE MEDICINE ET DE PHARMACIE MILITAIRES met in Rome, Italy, on May 28, at the Military Hospital. The congress was held under the patronage of the King and Queen of Italy, assisted by Premier Mussolini, who received all the delegates.

THE CHICAGO COUNCIL OF MEDICAL WOMEN was recently organized in Chicago. Membership is restricted to women holding a license to practice medicine, the council being limited to seventy-five active members. The incorporators are as follows: Anna E. Blount, Alice Conklin, Effa V. Davis, Mary E. Hanks and Lena K. Sadler.

Officers for the first year are: Anna E. Blount, president; Mary E. Hanks and Annie White Sage, vice-presidents; Lena K. Sadler, secretary; Eliza R. Morse, treasurer.

SAFEGUARDING HEALTH OF WORKING CHILDREN.—Twenty-two states now require the physical examination of every child applying for an employment certificate, according to the newly revised edition of a bulletin on "Physical Standards for Working Children," issued by the Department of Labor through the Children's Bureau. The bulletin contains recommendations of a committee of physicians who were appointed by the Bureau to prepare a standard form for use in examination of children seeking to enter employment.

QUININE URGENTLY NEEDED.—According to dispatches to the Near East Relief headquarters at New York City, a great shortage of quinine exists in the Russian Caucasus and Armenia and in consequence an alarming increase in malaria fever is reported. H. C. Jacquith, overseas director of relief operations, urged that a large shipment of quinine be sent at once, stating that ten thousand kilos were needed in the republic of Georgia alone, and that the government has been able to provide only a small fraction of the necessary amount. He stated that many of the people were able to pay the cost of the drug, but it was not obtainable at any price.

DR. OSCAR M. SCHLOSS, for the past two years head of the department of pediatrics at Harvard University, will return to New York to resume the chair of pediatrics at Cornell University Medical College, which he left to assume the duties in the department of pediatrics at Harvard. Dr. Schloss will also resume the directorship of the pediatric service at the New York Nursery and Child's Hospital.

THE INTERNATIONAL SOCIETY OF THE HISTORY OF MEDICINE at its meeting held in Antwerp April 11, 1923, voted to hold the fourth International Congress of the History of Medicine at Geneva, Switzerland, during the third week of July, 1925. Officers elected at the recent meeting were as follows: President, Dr. Charles Greene Cumston, Geneva; secretary general, Dr. A. de Peyer, Geneva; honorary president, Sir D'Arcy Power, London. Dr. Edward B. Krumbharr, Philadelphia, was elected one of the honorary vice-presidents.

INFLUENZA EPIDEMIC IN ALASKA.—It is reported by officers of the United States Coast Guard cutter "Haida" that an epidemic of influenza exists on the western coast of Alaska. According to the report several natives on Sannak Island died from the disease, and at Morzhoivs, practically every person was sick and that the food supply was very low. The cutter landed food, medicine and coffins, and left a medical officer in charge.

MERGER OF CHINESE MEDICAL SCHOOLS—A merger has been effected between the North China Union Medical College for Women and the School of Medicine of Shantung Christian University. Funds are in hand and ground has been broken at Tsinanfu for the erection of new buildings. Shantung Christian University has under consideration the opening of the premedical departments to women students.

CHARITY HOSPITAL GRADUATES NURSES—Governor Parker on Wednesday, June 6, presented diplomas to seventeen graduates of the Charity Hospital School for Nurses. Miss Camille A. Hyland won a pin and the $100 scholarship for the highest average in theory and practical work. Miss Catherine B. Carroll merited a course in bacteriology for the second highest average, Miss Angeline R. Glaudi will receive an anesthesia scholarship for "special interest in her duty," and Mrs. Tress L. Martin received a $50 prize in recognition of her duties and services to the sick. "Service and sacrifice" was the subject of an address by Dr. John T. Crebbin, president of the Louisiana State Nurses' Board of Examiners.

THE LOUISIANA ANTI-TUBERCULOSIS LEAGUE on Friday, June 8, re-elected Dr. Ernest S. Lewis, president. Other officers elected were Rabbi E. W. Leipziger, fist vice-president; Mrs. J. St. Clair Favrot, second vice-president;

Miss Kate Gordon, secretary; S. E. Allison, treasurer. The meeting was held in Hotel Grunewald, representatives from all parishes attending. Preparations for a campaign to raise funds for the erection of new buildings for the sanitarium at Greenwell Springs, La., recently destroyed by fire, were made. According to the report $5,647.77 was realized from the sale of Christmas stamps.

THE SEVENTEENTH FRENCH CONGRESS OF MEDICINE will be held at Bordeaux, France, September 27 to 29, 1923. Subjects which will be considered are as follows: 1. Sequels of malaria. 2. Report on the sympathetic and the endocrine glands in pathology. 3. Treatment of meningococcal infections.

THE BOSTON TUBERCULOSIS ASSOCIATION is making an experiment in health education by showing lantern slides at the clinics of the Boston Dispensary. As considerable time is spent by patients waiting their turn for examination it was decided to utilize the time in helping to educate the people regarding tuberculosis and disease prevention in general.

THE UNITED STATES CIVIL SERVICE COMMISSION announces the following open competitive examinations: Junior Medical Officer (Pathologist), Junior Medical Officer (Assistant Anesthetist). Receipt of applications will close July 24. Full information and application blanks may be obtained from U. S. Civil Service Commission, Washington, D. C., or the secretary of the Board of U. S. Civil Service examiners at the post office or customhouse in any city.

AT THE ANNUAL MEETING OF THE AMERICAN BRONCHOSCOPIC SOCIETY held in Atlantic City, N. J., May 9, Dr. R. C. Lynch of New Orleans was elected president. Other officers elected were Drs. Fielding O. Lewis, Philadelphia, vice-president, and William B. Chamberlain, Cleveland, secretary-treasurer.

TANGIPAHOA PARISH MEDICAL SOCIETY was reorganized May 30 at Hammond, with fourteen present. The following officers were elected: Dr. E. M. Robards, Ponchatoula, President; Dr. L. L. Ricks, Kentwood, Vice-President; Dr. A. L. Lewis, Amite, Secretary-Treasurer. It was decided at this meeting to hold their regular monthly meetings on the Monday evening of each month.

AN ORGANIZATION MEETING OF WASHINGTON PARISH MEDICAL SOCIETY was held at Bogalusa on May 31, with sixteen present. Dr. J. L. Brock, Franklinton, President; Dr. E. D. Robbins, Bogalusa Vice-President; Dr. F. Michael Smith, Franklinton, Secretary-Treasurer. This Society will meet monthly at Bogalusa as guests of the Great Southern Lumber Company, at the invitation of Col. Sullivan, manager.

DR. HENRY DICKSON BRUNS was awarded the high honor of Phi Beta Kappa at the University of Virginia on June 12, 1923, for scholastic attainments.

DR. MARCUS FEINGOLD of New Orleans is scheduled to give an illustrated lecture on "Fundus Lesions and Their Histo-Pathology," at the Graduate Course in Opthalmolgy and Oto-Laryngology, to be given under the auspices of the Ernst Fuchs Society; Colorado Ophthalmologic Society; Colorado Oto-Laryngological Society, in Denver, Colo., July 16 to 28.

DR. T. J. DIMITRY and family left June 10 for an extended motor trip in the West. Dr. Dimitry will attend the meeting of the American Medical Association in San Francisco, after which they will proceed to Portland, Seattle and Alaska.

THE PACIFIC COAST will be visited by many Louisiana physicians who are on the way to the meeting of the A. M. A. in San Francisco.

REMOVALS.—Dr. L. S. Charbonnet, from 1141 to 630 Maison Blanche Building.

Dr. R. E. Windham, from Merryville, La., to Port Arthur, Tex.

DIED.—On June 7, Dr. D. S. Brosnan of New Orleans, aged 44 years.

During June Dr. W. H. Billingsly of Shreveport, La., aged 35 years.

On June 9, Dr. T. D. Warren of E. Tallassee, Ala., aged 35 years.

BOOK REVIEWS AND NOTICES

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible ,the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

Inflammation in Bones and Joints, by Leonard Ely, M. D.—J. B. Lippincott Co., Philadelphia and London, 1923.

This volume is one of the most useful contributions on this subject with which I am familiar. It is the expression of opinion by one qualified by training, experimental work and clinical experience.

The author in his preface states, that he realized it required considerable temerity to write such a book, but that it is based upon personal observation and research.

The book is written in a way that should make it very acceptable to teachers and may be easily placed in the hands of students as a text book. Though it contains many statements which might prove sources of controversy it is nevertheless valuable.

In describing the various structures of bone, the author states there is no such structure as an "Endosteum." "Endosteum is simply marrow." That it is a specialized portion of the marrow no one disputes. That the cells directly within the compact bone have a special function of regeneration seems not to be disputed by authorities notable among these may be named Hey-Groves.

The author states that bone cannot suffer contusion. If we compare this with observations made by Major E. K. Martin, of the R. A. M. C., we will find that bones which had been fractured by projectiles show all the evidence of bruise. **(See British Journal of Surgery, Vol. 5, 1917-18.)**

A startling statement is made that bone tissue itself is not subject to inflammation, nor actively to disease but simply reacts to disease or changes of its contained marrow. And yet we find in another place the author states that "bone cells are an integral constituent."

It is interesting to find the author in agreement with those who are inclined to disregard the term periostitis as a definite entity, believing that the real inflammation in such a case is usually in the bone marrow. After experimental work he is in thorough accord with the views of Sir William McEwen. Along this same line the author discusses the repair of fractures. "After fracture, hemorrhage takes place into the marrow canal and on the outside of the cortex beneath the periosteum, the hemorrhagic exudate is replaced by granulation tissue, and this in turn by fibrous tissue and cartilage. As time goes on cartilage is ossified by penetration of blood vessels."....."In no instance have I been able to detect any evidence that periosteum takes an active part in it."

As a result of his experimental work on bone transplantation he states that the bone graft is eventually absorbed, although it may remain visible for years.

The chapter on acute Osteomyelitis is ver valuable. Under the head of treatment w find the author in agreement with those wh believe in opening the marrow cavity, wher the primary disease proper exists. He stat that under no circumstances must fear of i fecting the marrow induce one to stop.

The chapter on acute suppurative arthriti is rather startling, because the author speak of the use of drains, injections of formica dehyd and glycerine after Murphy's advic No reference is made to the Willem's plan treatment. It is also surprising to find th author referring to sprains as definite en tities.

The bibliography appended to each chapte should make the work a most useful referenc volume for surgeons doing work along thi line. One will find the book a valuable add tion to his library.

ISIDORE COHN.

Disease of the Skin, by Henry H. Hazen, A. M. M. D., St. Louis, C. V. Mosby Co.

Some of the best books on Dermatology ca be found among those written by Americ authors; Hazen's book is among them. In short review, the many excellent features o his book cannot be touched upon, but to Southerner, having practised and taught Der matology in the South for many years, an having seen a great many diseases of the ski in the dark races, a regret comes that h chapter on the cancer in the negro (ski types) was not expanded many fold. Ha en's wide experience with skin diseases in th negroes and Indians should make him an au thority on that phase of the subject, and on would have been much pleased to have had h experience with X-ray, radium, etc., in th treatment of those diseases in that race.

H. E. M.

History of Medicine, by Fielding Garrison, A B., M. D.—W. B. Saunders Co., Philadelphi and London.

This introduction to the history of Medici is a splendid product of the Surgeon General Library. It is a noteworthy America achievement.

After reading such a delightfully writte volume we can hardly fail to realize that w are the inheritors of a glorious heritage. T know medical history is to know the histor of the human race. This, the third, editio takes us through our medical activities dur ing the World War. It is up to the minut It represents a gigantic output of materi crystalized into a small space. It is the need ful book to stimulate and inspire. For w have our own galaxy of great men. Shoul we not know something about them?

Such a volume with its bibliographic note for collateral reading is of immense cultura value. Through such a history we learn t know what a whole-souled, whole-hearte human the Doctor is, and we are thrilled wit pride at the recital of the conspicuous part h is ever playing in the progress of the huma race.

H. D.